

Grant Applicant: Washington Metropolitan Area Transit Authority (WMATA)
Proposed Project: Northern Bus Garage
Date: April 1, 2022

**INFORMATION REQUIRED FOR PROBABLE
CATEGORICAL EXCLUSION
(SECTION 771.118(d))**

- ☐ A. DETAILED PROJECT DESCRIPTION AND BACKGROUND: See Attachment Part A and Appendix 1.
- ☐ B. LOCATION (INCLUDING ADDRESS): See Attachment Part B.
- ☐ C. METROPOLITAN PLANNING AND AIR QUALITY CONFORMITY: Project will not affect air quality conformity, see Part C and Appendix 3.
- ☐ D. ZONING: No change to zoning will occur, see Part D.
- ☐ E. TRAFFIC IMPACTS: Project will not affect traffic, see Attachment Part E.
- ☐ F. HOT SPOTS: Project will not affect carbon monoxide or particulate matter hot spots, see Part F and Appendix 4.
- ☐ G. CULTURAL RESOURCES: Project will affect cultural resources, see Attachment Part G and Appendices 5, 6 , 7, and 8.
- ☐ H. SECTION 4(F) RESOURCES: Project will affect Section 4(f) resources, see Attachment Part H and Appendix 9.
- ☐ I. NOISE: No moderate or severe noise impacts are expected to occur due to the proposed Project, see Attachment Part I and Appendix 10.
- ☐ J. VIBRATION: No change to operating vibration will occur, see Attachment Part J and Appendix 10.
- ☐ K. ACQUISITIONS & RELOCATIONS REQUIRED: No acquisitions or relocations are required, see Attachment Part K.
- ☐ L. HAZARDOUS MATERIALS: Project will affect hazardous materials. See Attachment Part L and Appendix 11.
- ☐ M. COMMUNITY DISRUPTION AND ENVIRONMENTAL JUSTICE: Project will not have significant effects, see Attachment Part M and Appendix 12.

- ☐ N. PUBLIC PARKLAND AND RECREATION AREAS: Project will not impact parks or recreation areas, see Attachment Part N.
- ☐ O. IMPACTS ON WETLANDS: Project will not impact wetlands, see Attachment Part O.
- ☐ P. FLOODPLAIN IMPACTS: Project will not impact floodplains, see Attachment Part R.
- ☐ Q. IMPACTS ON WATER QUALITY, NAVIGABLE WATERWAYS, & COASTAL ZONES: Project will not impact water quality, navigable waterways, or coastal zones. See Attachment Part Q.
- ☐ R. IMPACTS ON ECOLOGICALLY-SENSITIVE AREAS AND ENDANGERED SPECIES: Project will not impact ecologically-sensitive areas or endangered species, see Attachment Part R and Appendix 13.
- ☐ S. IMPACTS ON SAFETY AND SECURITY: No change to safety or security will occur, see Attachment Part S.
- ☐ T. IMPACTS CAUSED BY CONSTRUCTION: See Attachment Part T.

APPENDIX 1: Figures

APPENDIX 2: Community Engagement Meeting Minutes

APPENDIX 3: TIP Amendment

APPENDIX 4: Air Quality Management

APPENDIX 5: Cultural Resources Correspondence

APPENDIX 6: DC Historic Preservation Review Board Staff Reports

APPENDIX 7: Consulting Parties Report and Meeting Minutes

APPENDIX 8: Section 106 Memorandum of Agreement

APPENDIX 9: Section 4(f) Evaluation

APPENDIX 10: Noise and Vibration Analysis

APPENDIX 11: Hazardous Materials Surveys

APPENDIX 12: Environmental Justice Analysis

APPENDIX 13: U.S. Fish and Wildlife Inventory and Correspondence

**Northern Bus Garage Facility
Documented Categorical Exclusion
Attachment**

A. Detailed Project Description and Background:

Project Description

WMATA plans to replace the existing Northern Bus Garage at 4615 14th Street, NW Washington, DC. Replacement of the existing bus garage is necessary as the existing facility has met its useful life and structural improvements are needed in order to maintain efficient storage/maintenance, replace deteriorating concrete conditions, better accommodate articulated buses, and reduce deadheading (non-revenue service). The existing facility is currently closed. The project is expected to begin in 2022 and be completed by 2026.

WMATA's Board has adopted a goal of transitioning to a fully zero-emission bus fleet by 2045. The project is being designed to be WMATA's first all-electric bus garage, with infrastructure and equipment needed to run 100 percent electric vehicles (EV) at the Northern Bus Garage. However, this document does not assume the implementation of EV buses within the timeframes associated with the demolition, reconstruction, and opening of the bus garage.

The current facility is located on an approximately 5.25-acre site in northwest Washington, DC, and WMATA will rebuild the new facility on the existing, WMATA-owned site. The garage is bounded by 14th Street NW, Buchanan Street NW, Arkansas Avenue NW, and Iowa Avenue NW. The location of the existing facility is shown in **Figure 4** (see **Appendix 1**).

WMATA plans to demolish the existing garage but maintain the building façade (constructed in 1906) along 14th Street NW. The replacement garage would be located entirely within the existing footprint of the current garage. The layout of the existing facility is shown in **Figure 5** (see **Appendix 1**). The storage and maintenance capacity of the replacement garage would be 150 buses which is 25 fewer buses than the current capacity of 175 buses.

The improvements at Northern Bus Garage include the following:

- Reorganize the design and number of maintenance bays and bus storage parking to meet current and future needs;
- Design bus service bays to better accommodate articulated buses serving downtown Washington, DC;
- Construct column spacing to support 14-foot minimum stall width, to allow for more efficient use of garage space;
- Construct service lanes on level surfaces to minimize the risk of rolling buses during refueling and cleaning operations;
- Minimize the number of access points along the perimeter to allow for proper access control to address safety and security concerns;
- Re-design the facility to include counter-clockwise circulation to improve operators' visibility while turning;

- Minimize the number of level changes within bus circulation and parking areas, to support safe and efficient operations; and
- Accommodate the additional equipment that will be needed to support the zero-emission bus fleet including charging stations, overhead layouts for the charging pantographs, and the rooms needed for the additional electric switchgear.

The proposed design would also result in:

- Adequate height clearance for newer diesel buses and future overhead charging for electric buses;
- Modernization of existing garage with natural light and updated equipment;
- Reduction of operating costs through sustainable strategies including a green roof, electric vehicle charging equipment at 10 parking spaces, and a solar array;
- Incorporation of retail element for community integration along 14th Street NW; and
- 100 percent filtered exhaust air, which requires an extensive area of indoor mechanical space.

The upgraded facility would relocate a portion of current employee parking from on-street parking in the surrounding neighborhood to on-site parking. Currently, there are 212 on-site parking spaces for employees and non-revenue vehicles. The proposed project includes 306 onsite parking spaces for employees and non-revenue vehicles—more than is required by DC code—as well as 20 parking spaces for retail employees.

The new facility will continue to provide service such as cleaning (interior and exterior), inspections, fueling and wash, running repairs, parts storage, crew reporting and dispatching, and employee service and welfare areas. However, previous heavy repairs and paint booth services will no longer be conducted at this facility as mitigation stemming from community feedback. The previous project concept is shown in **Figure 6** (see **Appendix 1**) followed by the current detailed project concept in **Figure 7** (see **Appendix 1**). The new facility will accommodate clean diesel, hybrid electric diesel, and zero emission bus technologies.

Project Background

Northern Bus Garage was built in 1906 as a streetcar storage and maintenance facility for the Capital Traction Company. The facility was formerly known as the Capital Traction Company Car Barn or the Decatur Streetcar Barn. In 1926, the basement portion of the barn was leased to the Washington Rapid Transit Company for bus maintenance and storage.

In 1959, the former streetcar storage facility was converted into a bus garage to serve the District's rapidly growing network of bus routes. By 1966, the fully converted bus garage came under ownership of Metro and became known as Northern Bus Garage. After meeting the city's bus storage, maintenance, and transportation needs for over 20 years, the garage underwent major renovations from 1987 to 1992.

The phased renovation included demolition of the original roof, replacement of original wood windows with aluminum windows, addition of rooftop parking, and insertion of a bus entry at the

southern end of the west façade. Additionally, there were many alterations to the administrative offices and the original 1906 building elevations.

The historic 14th Street façade has retained much of its original design despite several renovations over the building's 114-year history. The Northern Bus Garage was listed in the D.C. Inventory of Historic Sites in 2012 and the National Register of Historic Places in 2013.

The planning process for facility upgrades to the Northern Bus Garage began with the 2018 Metrobus Facility Plan. The study reviewed the needs and current capacity constraints of existing bus operating and maintenance facilities, assessed the physical conditions of garages, identified shortcomings, and addressed recommendations for capital improvements. Recommendations addressed short, medium, and long-term investment needs based on projected changes to fleet size, technology, composition, service growth, and plans for structural and/or locational changes to operating divisions. The facility was temporarily closed in 2019 after WMATA determined that existing building conditions posed safety risks to employees.

The proposed project was reviewed by DC Historic Preservation Review Board (HPRB) per the DC Historic Landmark and Historic District Preservation Act of 1978 on May 28, 2020. On September 24, 2020, the project underwent HPRB demolition permit review. This permit was denied and the project was formally referred to the Mayor's Agent. The project team's application for a Limited to Raze Permit was reviewed at the March 26, 2021 Mayor's Agent hearing.

The Mayor's Agent rules on the basis of specific criteria stated in the DC historic preservation law. To approve an application for permit or subdivision, the Mayor's Agent must find that approval was necessary in the public interest or that failure to approve the application would result in unreasonable economic hardship to the owner. The phrase "necessary in the public interest" means consistent with the purposes of the preservation law or necessary to allow the construction of a project of special merit. Special merit means that a project provides significant benefits to the District or to the community by virtue of exemplary architecture, specific features of land planning, or social or other benefits having a high priority for community services. The Mayor's Agent has the final authority to determine what is in the public interest under the DC historic preservation law. On September 17, 2021, the Mayor's Agent determined that WMATA's permit for demolition will be cleared.

Before submitting to the Mayor's Agent, the project team undertook robust community engagement from October to November 2020. Because of the COVID-19 pandemic, community engagement meetings were held virtually. The focus of each meeting is described below:

- Meeting 1 - October 13, 2020: facility redesign, floor plans, and exterior design options;
- Meeting 2 - November 2, 2020: Section 106 Consulting Parties, interim exterior design survey results, and Art in Transit;
- Meeting 3 - November 10, 2020: environmental topics including pollution minimization, site remediation, environmental design, and the agency's overall bus electrification efforts; and
- Meeting 4 - November 17, 2020: final results of the exterior design survey and final design concept presentation.

Community feedback was gathered during each of these meetings and through the exterior design survey which garnered 305 responses. The survey solicited responses to questions including graphics and allowed for open-ended responses. Responses indicated a clear preference for Option Three (of three concepts presented at Community Meeting 1) primarily because of how well that design integrated with the historic façade.

The final updated design for the facility reduced the total size of the facility by approximately 15 percent from original designs by eliminating some building massing (**Figure 1**). It also resulted in an 80 percent reduction in excavation, which eliminated the need for blasting; this will result in less vibration and noise for surrounding residents (**Figure 2**). Further information about excavation is discussed in Section T below.

Figure 1. Reduced Massing (looking northeast along 14th Street)

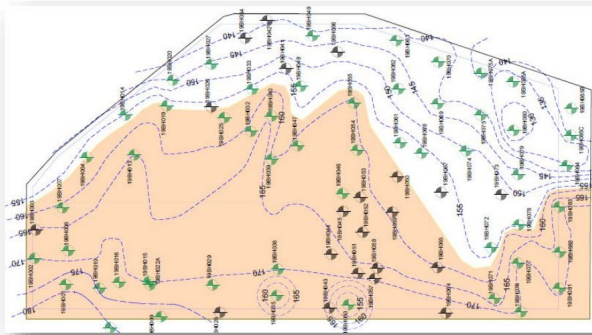


Previous Design

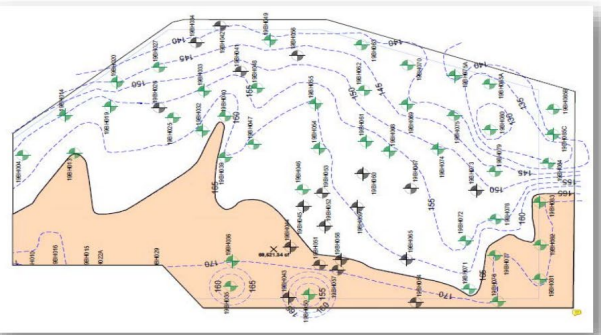


Current Design

Figure 2. Reduced Excavation Requirements



BEFORE:
~161,000 sf



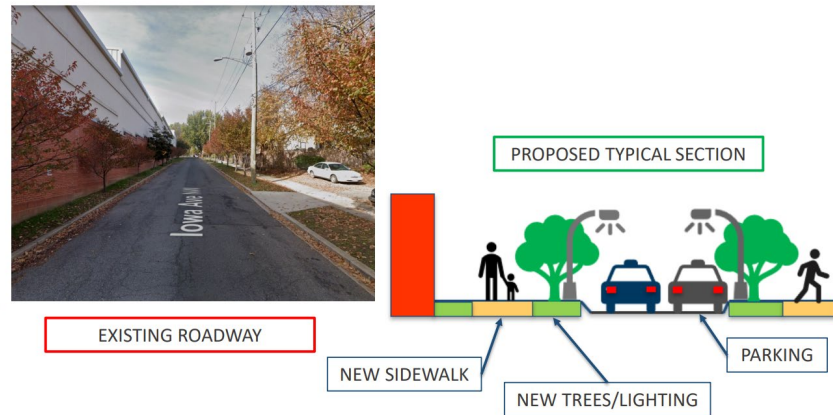
TODAY:
~70,000 sf

Other changes made as a result of community, HPRB, and Mayor's Agent feedback include the following items.

- Incorporated high-performance masonry panels on exterior;
- Additional windows on 14th Street;
- Additional windows on Iowa/Arkansas Avenues;
- Additional brick detailing;

- Reduced height along Iowa Avenue ;
- Incorporated Art in Transit;
- Wider walkway on northern side of facility with enhanced lighting; and
- New walkway on west side of Iowa Avenue (**Figure 3**).

Figure 3. Iowa Avenue Improvements



With community preferences known, the team finalized the updated design and resubmitted to HPRB on November 13, 2020. This final design incorporates both community feedback and HRPB recommendations from the review on May 28, 2020. HPRB reviewed the submission on December 17, 2020 and unanimously approved the updated concept designs. HPRB also made recommendations to improve the design related to the color scheme at building entrances and over garage doors and related to additional elements to help break down the scale of the Arkansas Avenue wall.

Subsequent to the Mayor’s Agent permit application, community engagement continued with two additional meetings, the focus of which are listed below:

- Meeting 5 - March 16, 2021: communication of HPRB feedback on exterior design, the environmental remediation process, and the zero-emission bus program; and
- Meeting 6 - June 15, 2021: changes to the exterior design following the Mayor’s Agent meeting, ongoing environmental work at the site to assess remediation needs, and communication of the construction monitoring process.

Minutes of the six community engagement meetings are provided in **Appendix 2**. A comprehensive list of minimization and mitigation measures as a result of the revisions and community outreach described above is provided in **Table 1** by category.

Table 1. Commitments, Mitigation and Minimization Measures

Category	Commitments, Minimization and Mitigation Measures
Traffic Impacts (Part E)	<ul style="list-style-type: none"> • Number of buses stored and maintained at the garage will be reduced from 175 buses to 150.

	<ul style="list-style-type: none"> On-site parking will be occupied over multiple shifts thus generating a limited amount of traffic at any one time.
Hot Spot Analysis (Part F)	<ul style="list-style-type: none"> Bus entrance/exits equipped with two sets of doors: outer doors are standard garage doors while inner doors are high-speed to prevent air escape. Building will also be negatively-pressured to contain emissions. All interior air treated prior to release via MERV 16 air filtration for particulate matter and chemical bonding scrubbers for gaseous vapors.
Cultural Resources (Part G)	<ul style="list-style-type: none"> Preservation of the administration building and tower in their entirety as well as all frontage along 14th Street NE. Full preservation/restoration conducted on all retained elements including the administration building, tower, arches, arched windows, gable entry, and chimney. Full restoration of the 14th Street NE façade with historically accurate, matching windows but with modern materials. Installation of a new slate roof on the administration building and tower. Repairs to limestone and brick. Use of complementary features in new construction including similar proportions in scale and repetition of elements like windows as well as cantilever rooflines referencing the historic large arch treatments on the administration building and the tower. Reduction in building size (15 percent reduction in total gross square footage). Reduction in massing and height of street-facing facades: <ul style="list-style-type: none"> Design heights lower than historic building. Rear portion of designed building at the same height or lower than existing structure except for mid-block area along Arkansas Avenue NE where car ramp goes to the roof. Use of high-performance masonry panels instead of metal panels. Ensured strong Art in Transit components, with exact form dependent on further development with an artist and the community. Installation of replica streetcar tracks in the area where streetcars used to enter and/or exit the building along 14th Street NW. Development and installation of one to three exterior interpretive signage exhibits and up to five interior interpretive signage exhibits for the building's community room.
Noise (Part I)	<ul style="list-style-type: none"> Rooftop mechanical units completely enclosed by building walls on the west side to reduce noise pollution. On the east side, units will not be internal, but will be located behind a brick screen to reduce noise. Number of buses operated at the garage will be reduced from 175 buses to 150.
Vibration (Part J)	<ul style="list-style-type: none"> Number of buses operated at the garage will be reduced from 175 buses to 150.
Acquisitions and Relocations	<ul style="list-style-type: none"> Designs modified to eliminate the need for temporary easements for installing 'support of excavation' tiebacks under two adjacent residential properties.

Required (Part K)	
Hazardous Materials (Part L)	<ul style="list-style-type: none"> • Elimination of paint and body shop components of garage operations.
Community Disruption and Environmental Justice (Part M)	<ul style="list-style-type: none"> • Elimination of heavy repairs and paint booth facilities and services. • Employee parking provided to eliminate issue of employees parking in the neighborhood. • Bus entrance/exits equipped with high-speed doors and building negatively-pressured to contain emissions. • Maintained same level of shadowing for neighborhood properties as existing building. • Office space for Uptown Main Street. • 27,500 square feet of retail space with preference for neighborhood grocer. • Community room with capacity of up to 150 seating and up to 200 standing with at-grade ADA accessible entrance (no ramp required). • Develop a plan that will ensure continued community involvement and information sharing as the project advances to the demolition and construction phases.
Impacts on Water Quality, Navigable Waterways, and Coastal Zones (Part Q)	<ul style="list-style-type: none"> • Green roof features including both tray boxes and soil-based planting.
Safety and Security (Part S)	<ul style="list-style-type: none"> • MTPD office located at corner of 14th Street NE and Buchanan Street NE for greater community presence. • Addition of more windows on 14th Street NE and Iowa/Arkansas Avenues NE. • Sidewalk added along Iowa Avenue NE. • Sidewalk along northern side of garage building widened and equipped with increased lighting. • Sidewalk along 14th Street NE widened. • Signal at 14th and Decatur Streets reconstructed to improve pedestrian safety.
Construction Impacts (Part T)	<ul style="list-style-type: none"> • Reduction in bedrock removal needs by 80 percent, eliminating the need for bedrock blasting. This avoids both noise and vibration impacts. • Vibration will be monitored via seismographs placed at the perimeter of the project at least 30 days prior to the start of construction to establish a baseline for comparison to construction-related vibration. All properties within 200 feet of the bus facility's property boundary will be offered the opportunity to receive a pre-existing condition survey prior to the start of construction. This survey will cover both the interior and exterior of the property being surveyed. Invitations to property owners will be sent 90 days prior to the start of construction.

B. Location Including Address: The Northern Bus Garage Facility is located at 4615 14th Street NW, Washington DC 20011; as shown in **Figure 4** (see **Appendix 1**).

C. Metropolitan Planning and Air Quality Conformity: Under Title 40, Code of Federal Regulations (CFR), Part 93.126, the project is exempt from the requirements to determine conformity. However, the project is included in the conforming Regional Transportation Improvement Program (TIP) Amendment No. 5857, as shown in **Appendix 3**. Inclusion in the TIP demonstrates conformity with the region's air quality management program and a project cannot be approved to be in the TIP, nor can a project receive federal funds, if it causes the region's air quality to be degraded below existing standards. Because the District of Columbia is not currently a non-attainment area for Carbon Monoxide or Particulate Matter 2.5 and 10, project-level air quality conformity requirements do not apply.

D. Zoning: The site is zoned as PDR-1 – Production, Distribution, and Repair, which permits moderate-density commercial and PDR activities employing a large workforce and requiring some heavy machinery under controls that minimize any adverse impacts on adjacent, more restrictive zones. This project will maintain the current zoning designation.

E. Traffic Impacts: This project is not anticipated to create unacceptable conditions on the regional roadway network. The number of buses stored and maintained at the garage will be reduced from 175 buses to 150 buses, thus reducing bus travel on the surrounding road network. Employee arrivals and departures are broadly dispersed throughout the day and evening. As a result, traffic from the proposed employee parking would have a negligible impact on nearby intersections.

Traffic volumes on the adjoining street network are relatively low and can readily accommodate the bus and employee traffic associated with the facility without creating unacceptable conditions. In 2018, the Average Annual Daily Volume on 14th Street NE adjacent to Northern Bus Garage was approximately 11,000 vehicles per day.¹ The volume on Buchanan Street NE was approximately 1,000 vehicles per day.

Currently, there are 212 on-site parking spaces for employees and non-revenue vehicles. The proposed project includes 306 onsite parking spaces for employees and non-revenue vehicles as well as 20 parking spaces for retail employees. The 326 parking spaces would be occupied over multiple shifts. This would result in only a limited amount of traffic being generated by the parking at any time.

Generally, the maximum acceptable conditions capacity for urban streets is based on intersection capacity. Based on DDOT Signal Optimization Synchro files using 2019 traffic counts, the Highway Capacity Manual Existing Conditions Level of Service (LOS) for the 14th Street NE and Buchanan Street NE intersection is shown in **Table 2**. The existing conditions are LOS A in the AM Peak Period and LOS B in the PM Peak. Since bus and employee traffic is distributed throughout the day rather than during peak periods, conditions are not anticipated to degrade to an unacceptable LOS E or F.

¹https://ddot.dc.gov/sites/default/files/dc/sites/ddot/publication/attachments/TrafficVolumes_2018.pdf

Table 2 – Existing LOS at 14th Street and Buchanan Street NE

Period	Average Delay (seconds)	Level of Service
AM Peak	6.4	A
PM Peak	11.4	B

F. Hot Spot Analyses: The District of Columbia is in attainment for the National Ambient Air Quality Standards (NAAQS) for SO₂, NO₂, Lead, Carbon Monoxide (CO) and Particulate Matter (PM) 2.5 and PM₁₀. A hot-spot analysis estimates how the proposed project might influence local pollutant concentrations of CO, PM_{2.5}, and PM₁₀, as well as how the estimated condition compares to NAAQS. EPA's conformity regulations only require hot-spot analyses for certain projects located in nonattainment or maintenance areas for PM_{2.5}, PM₁₀, and CO. See 40 CFR Part 93.116. Because this project is entirely located in areas that are in attainment for CO, PM_{2.5}, or PM₁₀, hot-spot analysis is not required. See **Appendix 4** for additional information on air quality management measures at the proposed facility.

Original facility designs included full interior air filtration prior to release; however, to mitigate community concerns, the air filtration system was upgraded from minimum efficiency reporting value (MERV) 14 to MERV 16 filtration. MERV 16 is the highest level residential/commercial filter available. MERV is an industry standard rating that indicates the worst-case performance of the filter in terms of preventing pollutants from passing through. Performance must meet this minimum and can be better in usage. MERV 16 filtration will prevent the release of 95 percent of all pollutants, including 95 percent of the smallest/most harmful particle sizes of 0.3 – 1.0 micrometers. These particles include dust, pollen, mold spores, bacteria, auto fumes, pet dander, coal dust, and more. This change from MERV 14 to MERV 16 filtration will increase the effectiveness of filtration at the facility as shown in the last row of **Table 3**.

Table 3. MERV 14 and 16 Effectiveness Comparison

MERV	Percent efficiency per micrometer particle size		
	0.3-1.0	1.0-3.0	3.0-10.0
14	75%	90%	95%
16	95%	95%	95%
Increase	20%	5%	0%

In addition, bus entrance and exits will be equipped with two sets of doors: outer doors will be standard garage doors while inner doors will be high-speed to prevent air escape. Building will also be negatively-pressured to contain emissions.

G. Cultural Resources: The Northern Bus Garage was constructed by the Capital Traction Company in 1906 as a car barn for storage and maintenance of street cars. The streetcar facility was commonly referred to as the Capital Traction Company Car Barn or the Decatur Street Car Barn. The car barn is listed in the National Register of Historic Places (NRHP; NR#13000290, listed May 22, 2013). The period of significance for the NRHP listing is 1906 – 1959, the end date marking the conversion of the building from a streetcar facility to a bus garage. It is also a landmark listed in the DC Inventory of Historic Places.

Since 1959, the facility has undergone significant modifications and additions to function as a bus garage. Only the two-story office building, three-story tower and front façade of the original building along 14th Street NW have not undergone significant changes. The proposed demolition and new construction would not significantly alter the original façade of the car barn and would be compatible with the historic nature of the structure. However, the designated boundary for the NRHP-listed property extends beyond these components.

WMATA's proposed replacement of the Northern Bus Garage is funded with federal money from the Federal Transit Administration (FTA), requiring compliance with Section 106 of the National Historic Preservation Act in accordance with the procedures found in 36 CFR Part 800, as amended. FTA initiated a Section 106 consultation with the District of Columbia State Historic Preservation Office (DC SHPO) on April 16, 2019 (see **Appendix 5**).

An analysis to identify cultural resources within the project's Area of Potential Effects (APE) was undertaken in consultation with the DC SHPO. The APE for historic resources includes all areas directly or indirectly affected by the proposed project. Direct impacts include physical, visual or auditory changes to the historic property or its setting directly resulting from the project, while indirect impacts may occur at a later time or farther removed in distance.

The APE for archaeology includes all areas of anticipated project-related ground disturbance (e.g., excavation, grading, cutting and filling, and utility installation activities as well as activities undertaken during construction that may result in unintentional soil compaction, erosion, or other disturbance). The Archaeological APE is confined to the footprint of any sub-grade disturbance. According to the WMATA's Section 106 consultation report, locations of planned sub-grade activities have been previously disturbed, and therefore, no archaeological resources are present within the APE.

The DC SHPO responded with preliminary concurrence with the APE and noted that the entire building, not just the 14th Street NW façade, is listed in the NRHP and is a designated DC Historic Landmark. The remainder of the historic APE, built as an early twentieth century streetcar suburb, does not demonstrate the level of historical or architectural significance requisite to meet the NRHP Criteria for eligibility.

A site visit consultation and inspection of the facility to assess remaining historic fabric resulted in the FTA and the DC SHPO informally agreeing that the undertaking would result in an adverse effect. The DC SHPO formally noted the project will have an adverse effect on historic properties due to the demolition of portions of the historic building in May 2019 (see **Appendix 5**).

The DC SHPO requested development of future plans to include the identification of all fabric dating from the period of significance (1906-1959) and an analysis of the potential to include and preserve historic fabric in the design that is in addition to the façade. They further suggested that opportunities to restore historic fabric be identified.

In its Section 106 Consultation Report (**Appendix 5**) FTA formally made a preliminary adverse effect determination since the project will preserve the 14th Street façade of the building but will

demolish much of the property and construct a new bus barn, which is not consistent with the Secretary's Standards for the Treatment of Historic Properties (SOI Standards) 36 CFR part 68 (NPS). The FTA notified the Advisory Council on Historic Preservation (ACHP) of the adverse effect in July of 2019 and invited them to participate in continuing consultation. ACHP declined to participate.

The project consultant's Secretary of the Interior-qualified professionals completed site visits and research on the history and development of the Northern Bus Garage and identified the extant historic fabric of the building. The resulting report also discusses options for preservation of historic materials in addition to the 14th Street NW façade, and identified areas that have been altered and could be restored. The *Historic Fabric Analysis* report, which was used to inform the project design and minimization of effects, is included in the *Consulting Parties Report* provided in **Appendix 7**.

As part of the initiation of consultation, notification letters (dated April 19, 2019) were sent to organizations that were considered potential consulting parties due to their interest in the preservation of historic properties. Notification of the project and basic project description was provided, along with the concept site plan with draft APE determination. Recipients included the National Capital Planning Commission, the DC Preservation League and the Advisory Neighborhood Commission, ANC-4C. These parties were asked to comment on the undertaking's potential to effect historic properties. No responses or comments were received.

As part of the Section 106 process, WMATA conducted public outreach and received two requests from community groups (i.e., 16th Street Neighborhood Association and the Uptown Main Street organization) for consulting party status, which were granted. The consulting parties and the public were invited to provide comment at the Advisory Neighborhood Commission (ANC 4C) meetings and at a meeting of the DC Historic Preservation Review Board (DC HRPB) (see May 28, 2020 HPRB Staff Report in **Appendix 6**).

Consulting parties were provided the opportunity to review and comment on the property's significance and the undertaking's effects on the historic Northern Bus Garage and consider what may be commensurate mitigation for the adverse effects (see July 29, 2021 Consulting Party Meeting Minutes in **Appendix 7**).

Through consultation with the consulting parties, design minimized effects to the historic property but was not able to avoid adverse effects, as the majority of the property will be demolished and a new facility constructed within the NRHP boundary. Therefore, additional measures were identified in consultation with the consulting parties to mitigate the adverse effects to the NRHP-listed Capital Traction Company Car Barn. FTA executed a Memorandum of Agreement (MOA) with DC SHPO and WMATA, including the following measures (see **Appendix 8**):

- Analysis and documentation of historic fabric;
- Restoration of the primary Fourteenth Street elevation;
- Replacement of the non-historic roofing materials for the Car Barn with historically appropriate materials;

- Replacement of non-historic windows of the Car Barn with historically more appropriate windows and materials;
- Design of the newly constructed wings to be compatible with the historic building by echoing the horizontal belt courses and rhythm of its windows, and by employing materials that are similar in color and texture to the stone details of the streetcar barn;
- Setbacks for newly constructed wings to accent the historic building;
- Installation of replica streetcar tracks in the area where streetcars used to enter and/or exit the building along 14th Street NW; and
- Development and installation of one to three exterior interpretive signage exhibits and up to five interior interpretive signage exhibits for the building's community room.

In addition, as a result of the design review process the following measures were incorporated into the project:

- Repairs to limestone and brick;
- Use of complementary features in new construction including similar proportions in scale and repetition of elements like windows as well as cantilever rooflines referencing the historic large arch treatments on the administration building and the tower;
- Reduction in building size (15 percent reduction in total gross square footage);
- Reduction in massing and height of street-facing facades:
 - Design heights lower than historic building and
 - Rear portion of designed building at the same height or lower than existing structure except for mid-block area along Arkansas Avenue NE where car ramp goes to the roof;
- Use of high-performance masonry panels instead of metal panels; and
- Ensured strong Art in Transit components, with exact form dependent on further development with an artist and the community.

H. Section 4(f) Resources

As noted in **Appendix 9**, the Preferred Alternative for the WMATA Northern Bus Garage Renovation Project would result in the use of the following Section 4(f) property:

- The Capital Traction Company Car Barn

The project will not result in the use (including constructive or de minimis) of any other Section 4(f) properties.

WMATA considered alternatives that completely avoid a “use” of Section 4(f) properties. WMATA has conducted analysis to identify potential feasible and prudent avoidance alternatives. Three such potential alternatives were identified:

1. No Action Alternative (the no-build alternative);
2. Relocating Northern Bus Garage to the grounds of Walter Reed Army Medical Center; and
3. Relocating Northern Bus Garage to the grounds of the Armed Forces Retirement Home.

The No Action Alternative, which would involve the continuation of re-routing of bus service to other bus facilities, would not result in a use of any Section 4(f) properties, including the Capital Traction Company Car Barn, which would be retained in its current state. The No Action Alternative would not provide any necessary changes to the Northern Bus Garage needed to accommodate bus capacity improvements nor improve the physical and environmental conditions of the building. Thus, the No Action Alternative will not meet any aspect of the project's needs. Continuing to re-distribute bus service previously housed at Northern Bus Garage to other WMATA bus divisions rather than rehabilitating and reopening Northern Bus Garage at its current location would require the continued extended travel distance for approximately two dozen bus routes each day (entailing hundreds of bus trips throughout the day) through dense, residential neighborhoods, leading to potentially severe noise, traffic congestion, and vibration. Moreover, this location would severely limit the ability of WMATA to implement electric bus service, given the need for a location for battery recharging near the destinations being served. Thus, because the No Action Alternative would cause severe social, economic, environmental impacts; would result in unacceptable operational problems; and would not meet any aspect of the project's needs, it cannot be identified as a feasible and prudent avoidance alternative.

Relocating Northern Bus Garage to the Walter Reed Army Medical Center site rather than rehabilitating and reopening it would also require the continued extended travel distance for approximately two dozen bus routes each day (entailing hundreds of bus trips throughout the day) through dense, residential neighborhoods, leading to potentially severe noise, traffic congestion, and vibration. Moreover, this location would severely limit the ability of WMATA to implement electric bus service, given the need for a location for battery recharging near the destinations being served. The 2018 Metrobus Facilities Plan confirmed that the location and capacity of the Northern Bus Garage relate directly to the operation of major bus lines that serve high-capacity downtown bus routes, particularly the 50s line, which operates along Fourteenth Street. Relocating these operations away at a great distance would result in exactly the type of "unacceptable . . . operational problems" envisioned by the Section 4(f) regulation, given the buses it serves from high demand routes in central DC. The 2015 Metrobus Facilities Plan Study estimated that relocating facility operations to this site would also increase annual operating costs by 47%, proving too expensive to operate, especially when multiplied over decades of anticipated service.

Thus, because the Walter Reed Army Medical Center alternative would cause severe social, economic, environmental impacts; would cause severe disruption to established communities; would create severe disproportionate impacts to a low-income population; would result in unacceptable operational problems; and would result in additional maintenance and operational costs of an extraordinary magnitude, this alternative would not be a feasible and prudent avoidance alternative.

Although the Armed Forces Retirement Home site is listed as a historic district on the NRHP, there are a number of non-contributing structures along the western edge of the site. Demolition of several of those structures would provide sufficient space for a new bus facility.

As with the Walter Reed Army Medical Center Avoidance Alternative, however, relocating Northern Bus Garage to the Armed Forces Retirement Home site rather than rehabilitating and reopening it at its current location would also require the continued extended travel distance for approximately two dozen bus routes each day (entailing hundreds of bus trips throughout the day) through dense, residential neighborhoods, leading to potentially severe noise, traffic congestion, and vibration. Moreover, this location would severely limit the ability of WMATA to

implement electric bus service, given the need for a location for battery recharging near the destinations being served. The 2018 Metrobus Facilities Plan confirmed that the location and capacity of the Northern Bus Garage relate directly to the operation of major bus lines that serve high-capacity downtown bus routes, particularly the 50s line, which operates along Fourteenth Street. Relocating these operations away at a great distance would result in exactly the type of “unacceptable . . . operational problems” envisioned by the Section 4(f) regulation, given the buses it serves from high demand routes in central DC. The 2015 Metrobus Facilities Plan Study estimated that relocating facility operations to this site would also increase annual operating costs by 30%, proving too expensive to operate, especially when multiplied over decades of anticipated service.

Thus, because the Armed Forces Retirement Home site alternative would cause severe social, economic, environmental impacts; would result in unacceptable operational problems; and would result in additional maintenance and operational costs of an extraordinary magnitude, this alternative would not be a feasible and prudent avoidance alternative.

As described in **Appendix 9**, there is no prudent or feasible avoidance alternative to the use of the Capital Traction Company Car Barn. WMATA will minimize and mitigate the harm to the Section 4(f) property through implementing the measures of the Section 106 MOA included in **Appendix 8**. The U.S. Department of the Interior reviewed the Northern Bus Garage Draft Section 4(f) Evaluation and concurred that there is no prudent or feasible avoidance alternative to the use of the Capital Traction Company Car Barn site (see **Appendix 9**).

I. Noise: As shown in **Appendix 10**, no moderate or severe noise impacts are expected to occur due to the proposed Project. The noise assessment compared the noise conditions from 2018, when the facility last operated at peak capacity, to predicted noise conditions upon reopening in 2026. As the facility is currently non-operational, existing noise conditions are assumed to be the ambient noise conditions as measured in the field (December 2021) combined with the noise contributions from busses and automobiles traveling to and from the bus facility when the facility was last at peak operational status (June 2018). This approach was utilized in order to best represent the ambient conditions during the peak operational period, prior to the facility being closed, and to improve the accuracy of the noise and vibration impact determination.

The proposed project would slightly decrease the bus capacity of the facility compared to the 2018 operational conditions. In addition, rooftop mechanical units will be completely enclosed by building walls on the west side to reduce noise pollution. On the east side, the units will not be internal, but will be located behind a brick screen to reduce noise.

A general assessment was conducted in accordance with the FTA Noise and Vibration Manual, finding that noise levels are not expected to increase at nearby receptors. Due to the decreased bus capacity and facility usage, noise levels would decrease by up to 0.3 dBA at some of the closest receptors. Maximum existing and future noise levels would remain at 67.3 dBA (Ldn).

J. Vibration: The number of buses operating from the facility will be reduced by 14 percent from 175 buses to 150 buses. The project involves only rubber-tired vehicles with suspension systems; it is unusual for buses to cause significant vibration. Typically, if perceptible vibration is generated from buses it is due to airborne sound from the bus exhaust causing windows to rattle or due to unusual discontinuities in the road surface such as potholes, bumps, or expansion joints. Therefore, there will not be operational vibration impact and no further analysis is warranted.

K. Acquisitions and Relocations Required: The project would not require acquisition of property or relocation of any existing, adjacent land use. Original designs would have required temporary easements for installing 'support of excavation' tiebacks under two residential structures and properties located at 4801 14th Street NW and 4800 Iowa Avenue NW, Washington, DC. However, updated designs avoided this need and the temporary easements are no longer required.

The project received approval on July 26, 2021 by the District of Columbia Public Space Committee for construction in public space for project-related street fixtures (e.g., driveways and curb cuts, sidewalks, street trees, streetlights, traffic signals, and other improvements).

L. Hazardous Materials: Based on recent sampling and prior investigations, hazardous materials exist at the Northern Bus Garage Facility. WMATA's design build contractor has conducted 53 soil borings and installed 10 temporary monitoring wells. Twenty-seven soil samples were collected. Nine of the wells were sampled as one well was found to contain Light Non-Aqueous Phase Liquid (free product). This finding was reported to the District Office of Energy and Environment (DOEE). The sampling identified the presence of the following contaminants:

- Benzene, toluene, ethylbenzene and xylene (BTEX)
- Total Petroleum Hydrocarbons
- Lead
- Arsenic
- Chlorinated Solvents (TCE/PCE/VC)
- Polychlorinated biphenyls (PCBs)

On February 18, 2021, WMATA submitted a work plan to the DOEE. Upon review and further coordination, four monitoring wells and 18 well points were drilled to support sampling and assessment of remediation needs at the site. Two water samples and one to two soil samples were taken from each well point.

The purpose of these monitoring wells and well points is to identify the extent of soil and water contamination on the site. Findings from samples taken will inform the remediation efforts required to remove the contaminated material as part of construction activities. If contamination is found, remediation would be undertaken in different ways based on contaminated item:

- Soil would be excavated and taken offsite to a treatment and disposal facility;
- Groundwater would be pumped through a treatment system; and/or
- Soil vapors would be extracted and treated.

Coordination with DOEE is continuing to complete investigations and to provide a final report with findings. Note, the soil and water analyses and remediation are proceeding independently of the Northern Bus Garage project and should be considered a separate project.

Asbestos-containing materials, such as floor tiles, roofing materials and fire doors are present in the building. In addition, the former underground storage tank system has been closed and

remediated through DOE Leaking Underground Storage Tanks closure requirements. No further corrective action is required. In addition, sampling and analyses indicate that lead paint is not present. Documentation of the above is included in **Appendix 11**.

The contaminants discussed above will be disturbed during demolition and construction activities, potentially exposing workers to contamination. WMATA will treat, handle, and dispose of these materials in accordance with the label instructions and regulatory requirements established by WMATA, the Occupational Safety and Health Administration (OSHA), the US Environmental Protection Agency (EPA), and other applicable regulatory authorities.

Original design of the bus garage included a paint and body shop. As a result of community input, the paint and body shop components of the garage operations were eliminated.

M. Environmental Justice: As described in **Appendix 12**, the study area is majority-minority and includes low-income populations. The minority percentage of the census block groups in the study area ranges from 64.1 percent to 88.0 percent, and the proportion of low-income households ranges from 3.7 percent to 51.6 percent. In addition, the study area is home to over 17 places of worship, including predominantly minority- and immigrant-based congregations; two specialty health centers catering specifically to minority, underserved, and immigrant populations; two specialty schools, both serving minority populations; and two social services organizations, with one providing affordable daycare for youth minority populations and the other providing housing for the homeless.

In order to determine whether the project would result in disproportionately high and adverse human health or environmental effects on low-income or minority populations, the analysis reviewed the potential for adverse effects. For impact areas with no potential adverse effects, no further analysis was conducted because there would be no potential for disproportionately high and adverse effects to minority or low-income populations. For impact areas with potential for an adverse effect, proposed avoidance, minimization, and mitigation measures were then considered to determine whether adverse effects would remain after implementation of those measures. See **Table 1** for a comprehensive list of these measures. The analysis determined that adverse effects to cultural resources and due to construction would remain following application of avoidance, minimization, and mitigation measures. These impacts were further examined to determine if adverse effects would be concentrated upon minority or low-income populations or resources of importance to those populations.

The project will demolish the 1906 car barn, except for the façade along 14th Street NW, and it would alter the visual appearance of the character-defining façade. While the adverse effect to the historic property cannot be avoided, the measures WMATA committed to will benefit the community through educational components and by creating a building that is compatible with the historic façade and is sensitive to the context of the surrounding neighborhood. Minimization, developed in consultation with the community, includes restoration of the primary 14th Street NW elevation, replacement of non-historic roofing and window materials with historically-appropriate materials, and design of the new structure to be compatible in scale, design elements, and materials with the historic façade. Additional mitigation to resolve the adverse effects to the building and provide a public benefit include installation of replica streetcar tracks where streetcars used to enter the building and development and installation of

interpretive signage exhibits on the history of the property and the role it played in the local community.

Following the implementation of avoidance, minimization, and mitigation measures, construction activities will continue to produce noise, dust, and emissions from construction vehicles as it is not possible to eliminate these impacts. In addition, it is anticipated that lane closures will be required that will result in traffic impacts even with the implementation of maintenance of traffic measures. These construction-related impacts are anticipated to last for the duration of construction which is 3-4 years. The intensity of these impacts could vary depending on the proximity of populations to the project location itself and roadway users in the vicinity of the project study area.

Many of the impacts would be felt by both EJ and non-EJ populations in the project area; however, as the majority of the project study area includes EJ populations, the project has the potential for adverse impacts to be predominately borne by EJ populations. In evaluating the potential adverse effects from the project that remain after all minimization and mitigation measures, it's expected that construction related noise, vibration, traffic, and air quality impacts would be well below the thresholds at which they would be expected to adversely affect human health or cause community disruption (i.e. creating barriers between communities or negatively affecting existing travel patterns). The associated construction related impacts would be mitigated and minimized to the maximum extent practicable and relative nuisance related impacts will not persist after construction is complete.

Mitigation and minimization measures for the project have been applied equally to all affected populations in the study area. Additional community benefits due to the project include amenities within the building such as office space for Uptown Main Street; 27,500 square feet of retail space with a preference for neighborhood grocer; and a community room with capacity of up to 150 seating and up to 200 standing with an at-grade ADA accessible entrance (no ramp required). The new building will also include employee parking to eliminate issues with employees parking in the neighborhood and will maintain the same level of shadowing for neighboring properties as the existing building. The design commitments will benefit those most affected by alterations to the historic structure, specifically those who live, work, worship, or recreate in places where they can see the building. The other community benefits will be equally accessible to EJ and non-EJ populations. After the consideration of all avoidance, minimization, and mitigation measures and a balancing of off-setting benefits of the project, no disproportionately high and adverse effects are expected to occur on minority and low-income populations. Furthermore, WMATA is developing a plan that will ensure continued community involvement and information sharing as the project advances to the demolition and construction phases.

N. Public Parkland and Recreation Areas: No impact to public parkland or any recreational area has been identified. No park or recreational area will be used for the project.

O. Wetland Impacts: No naturally occurring water features, including wetlands or waters of the United States are present.

P. Floodplain Impacts: No impact to floodplains will occur and the facility is not located within a floodplain (Flood Insurance Rate Map, Community Panel Number 1100010008C, effective September 27, 2010; this flood insurance rate map was reviewed and confirmed on May 10, 2021).²

Q. Impacts to Water Quality, Navigable Waterways, and Coastal Zones: No impact to water quality is anticipated as a result of the project. Surface water runoff from impervious surface cover will be managed in accordance with the Clean Water Act, as well as other federal and local regulations. Water quality practices currently in place at the bus garage will be used for this project, and new stormwater best management practices (BMPs) will be constructed to accommodate the proposed improvements. Green roof features, including both tray boxes and soil-based planting, will be incorporated into the facility design. Green roofs include a number of benefits including, but not limited to, the following:

- Enhanced stormwater management;
- Improved air quality;
- Reduced urban heat island effect;
- Improved building insulation;
- Improved mechanical equipment efficiency; and
- Longer roof life.

There is no navigable waterway in the bus garage facility property. Therefore, no impact to navigable waterways will occur.

As the District is not part of the Federal Coastal Zone Management Program, no Federal Coastal Zone Management Program Consistency Determination request was made for this project.

R. Impacts on Ecologically-Sensitive Areas and Endangered Species: No effect to federally-protected species or habitat is expected as a result of this project. The U.S. Fish and Wildlife Service (USFWS) lists one threatened and one endangered species requiring consideration in an effects analysis for the proposed project, including the Northern Long-eared Bat (*Myotis septentrionalis*) and Hay's Spring Amphipod (*Stygobromus hayi*), respectively (see **Appendix 13**).

The project does not meet the USFWS' tree clearing threshold of being greater or equal to 15 acres (see **Appendix 13**). Therefore, no Biological Assessment or further Section 7 consultation with the USFWS is required for the Northern Long-eared Bat.

Similarly, the USFWS indicated there are no critical habitats for the Hay's Spring Amphipod within the project area (see **Appendix 13**). The Hay's spring amphipod is a subterranean crustacean occurring in shallow ground water habitat located in the Piedmont physiographic region in the District of Columbia (DC). This habitat is not present in the project area. Therefore,

²<https://msc.fema.gov/portal/search?AddressQuery=4615%2014th%20Street%2C%20NW%20Washington%2C%20DC#searchresultsanchor>

no Biological Assessment or further Section 7 consultation with the USFWS is required for this species.

In addition, the USFWS listed the Monarch Butterfly (*Danaus plexippus*) as a candidate species. However, no supporting site conditions, such as nectaring plants and milkweed, for the species are found in the project study area. In addition, there are generally no Section 7 requirements for candidate species.

S. Impacts on Safety and Security: The proposed improvements at the Northern Bus Garage are not anticipated to cause any negative impact to the safety or the security of the adjacent community, or at the bus garage facility itself. The proposed facility will be fully enclosed and will have controlled access points using gates and guards, restricting access to authorized personnel only. In addition, the following measures will be incorporated to improve safety and security at the project site:

- Metro Transit Police Department (MTPD) office located at corner of 14th Street NE and Buchanan Street NE for greater community presence;
- Windows added on 14th Street NE and Iowa/Arkansas Avenues NE to increase 'eyes on the street';
- Sidewalk added along Iowa Avenue NE where currently lacking (see Figure 3) to enhance pedestrian safety;
- Sidewalk along northern side of garage building widened and equipped with increased lighting;
- Sidewalk along 14th Street NE widened; and
- Signal at 14th and Decatur Streets reconstructed to improve pedestrian safety.

T. Impacts Caused by Construction: The project is anticipated to begin in 2022 with a total duration of three to four years. The project will be designed and constructed by a design-build contractor who will be responsible for developing more detailed information on the construction schedule and equipment. In addition, the contractor would be responsible for complying with all required environmental regulations and permit requirements. There are no projected impacts to adjacent retail business along 14th Street NE. WMATA is working with the District Department of Transportation (DDOT) to coordinate the Maintenance and Protection of Traffic (MPT), including for pedestrians in the vicinity of the project. The MPT plan will maintain pedestrian access to the nearby businesses.

Vibration:

Construction vibration is typically generated by earth-moving equipment such as loaded trucks and bulldozers, impact equipment such as hoe rams, and drilling rigs for setting foundations for the parking deck. As shown in **Appendix 10**, the distances away from this equipment where there is an increased risk of structural damage to nearby buildings is 20 feet or less depending on the sensitivity of the building to vibration. Since all the surrounding buildings are more than 40 feet from the project site, there is not a risk of structural damage from construction activities.

The original design for the Northern Bus Garage would have required rock excavation and drilling for installation of support of excavation tiebacks, which would have generated vibration.

These previous activities are summarized in the bullets below. However, the updated design incorporates a considerable avoidance by reducing rock excavation quantity by 80 percent and therefore eliminating the need for both blasting and tiebacks and associated drilling. The total footprint of bedrock to be removed has been reduced by 55 percent from around 161,000 to 70,000 square feet and the depth of rock cutting has been reduced from 15-20 feet to around 5 feet. Rock removal will only be necessary on the 14th Street side, reducing impacts to surrounding properties on other sides of the garage property. No blasting will be required for rock removal and will instead be removed via mechanical methods.

Vibration will be monitored via seismographs placed at the perimeter of the project at least 30 days prior to the start of construction to establish a baseline for comparison to construction-related vibration. All properties within 200 feet of the bus facility's property boundary will be offered the opportunity to receive a pre-existing condition survey prior to the start of construction. This survey will cover both the interior and exterior of the property being surveyed. Invitations to property owners will be sent 90 days prior to the start of construction.

Noise: **Appendix 10** presents the equipment, maximum sound level, utilization factor, and Leq sound level typically used for constructing new maintenance buildings and parking decks. Since construction noise is evaluated for typical conditions over a relatively long period of time, noise levels are predicted relative to the center of the construction area. Construction noise is assessed according to the District noise ordinance, which is a daytime limit of 80 dBA (Leq), at a distance of 25 feet from the outermost limits of the site which is approximately 250 feet or farther from the center of construction activities. Based on sound propagation of 6-decibel reduction per doubling of distance, construction noise levels at 25 feet from the boundary of the facility would typically be 75 dBA (Leq). These construction noise levels are below the District noise ordinance of 80 dBA during the daytime and therefore no construction noise mitigation is warranted.

Construction will be limited to the hours stipulated by the District Department of Consumer and Regulatory Affairs (DCRA) in DC Municipal Regulation (DCMR) 20, Sec. 2700.1; that is, Monday through Saturday from 7 am to 7 pm. Any work outside of these hours will be conducted only after receiving an after-hours permit from DCRA. Construction activities will follow the noise criteria specified in Section 16.7 of the *WMATA Manual of Design Criteria*. The construction noise levels at the project boundary for the equipment typically used for this type of construction project are substantially below the District noise ordinance of 80 dBA during the daytime.

Utilities: The design-build contractor will coordinate through utility survey to determine the location of utilities on-site. Construction operations are not anticipated to result in the disruption of any energy utility to commercial, industrial, or residential customers in the project area.

Disposal of Debris, Solid Waste, and Hazardous Materials: The Northern Bus Garage Facility will be designed and constructed under LEED "Platinum" design standards. This standard requires that debris from the construction process be minimized and that materials be reused wherever feasible. Any unusable construction debris will be disposed of in local construction-debris landfills. No waste will be disposed of or incinerated on site.

Water Quality: During construction, stormwater runoff will be managed in compliance with

federal and DC regulations. A stormwater management plan and erosion and sediment control plan will be prepared for use during construction activities. A stormwater pollution prevention plan will be developed, detailing the methods to manage construction waste, such as building materials, garbage, and debris, and to implement controls to minimize the exposure of these materials to stormwater. Temporary management facilities for the control of construction stormwater runoff will be erected and the design-build contractor will obtain all appropriate permits and approvals.

Access and Distribution of Traffic: The design-build contractor will prepare a management plan for construction-related traffic in accordance with DDOT's Temporary Traffic Control Manual (2006). The design-build contractor would also obtain all necessary permits and/or permission to perform work in the vehicular and/or pedestrian right-of-way from DDOT. A Traffic Control Plan would be developed in accordance with the DDOT Temporary Traffic Control Manual to manage traffic during roadway construction in the public right-of-way. This plan would be completed during the Public Space Permitting Process. This plan will show which travel lanes and sidewalks will be temporarily closed during construction and how all modes of travel will be accommodated, including the coordination with other nearby construction projects, and will identify responsible parties.

Air Quality: Construction activities at the facility may cause nuisance dust and construction equipment emissions. These increases are not expected to adversely impact air quality either locally or regionally. Control measures may include minimizing the length of exposure of disturbed lands, sprinkling water and/or wood chips on exposed earth, and using tarpaulins on loaded trucks.

WMATA will require the contractor to utilize the best available mitigation measures to prevent excessive emissions or particulates and carbon monoxide from the operation of machinery. Generally, such measures include the prohibition of unnecessary idling and operation of equipment, and appropriate pollution control equipment.

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APPENDICES

APPENDICES

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APPENDIX 1: FIGURES

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Figure 4: Existing Facility Location



Figure 5: Existing Facility

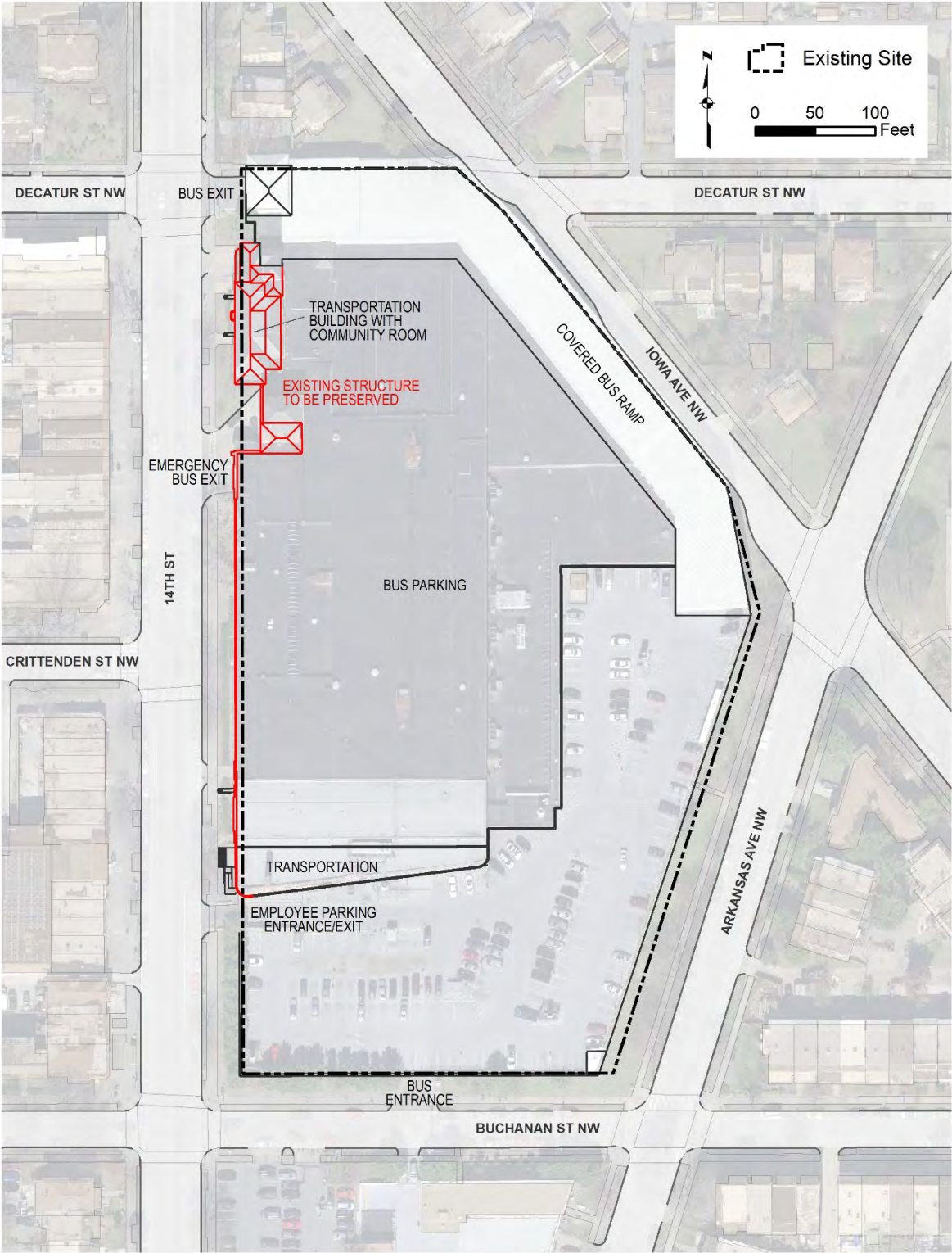


Figure 6: Previous Detailed Project Concept (Proposed Conditions)

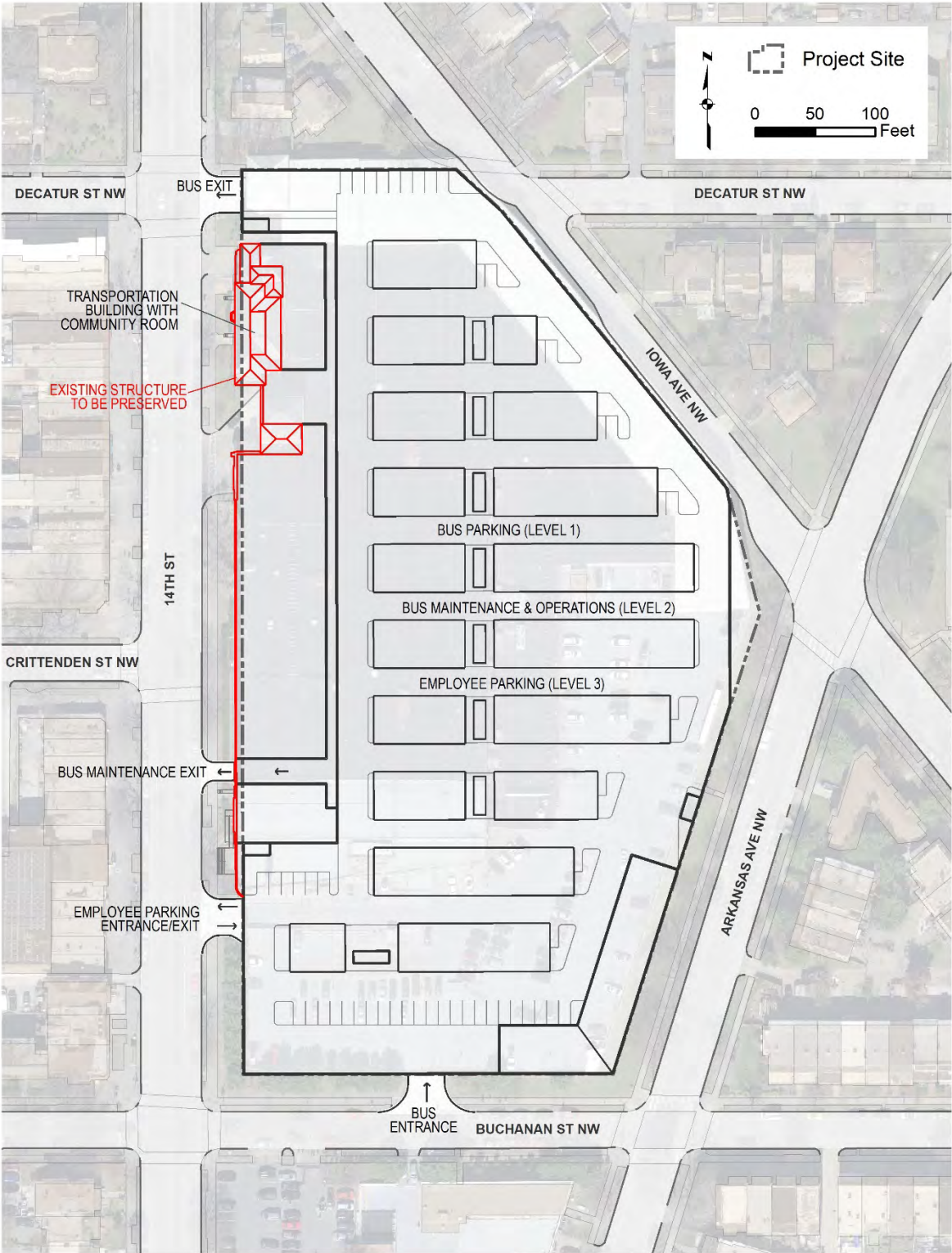
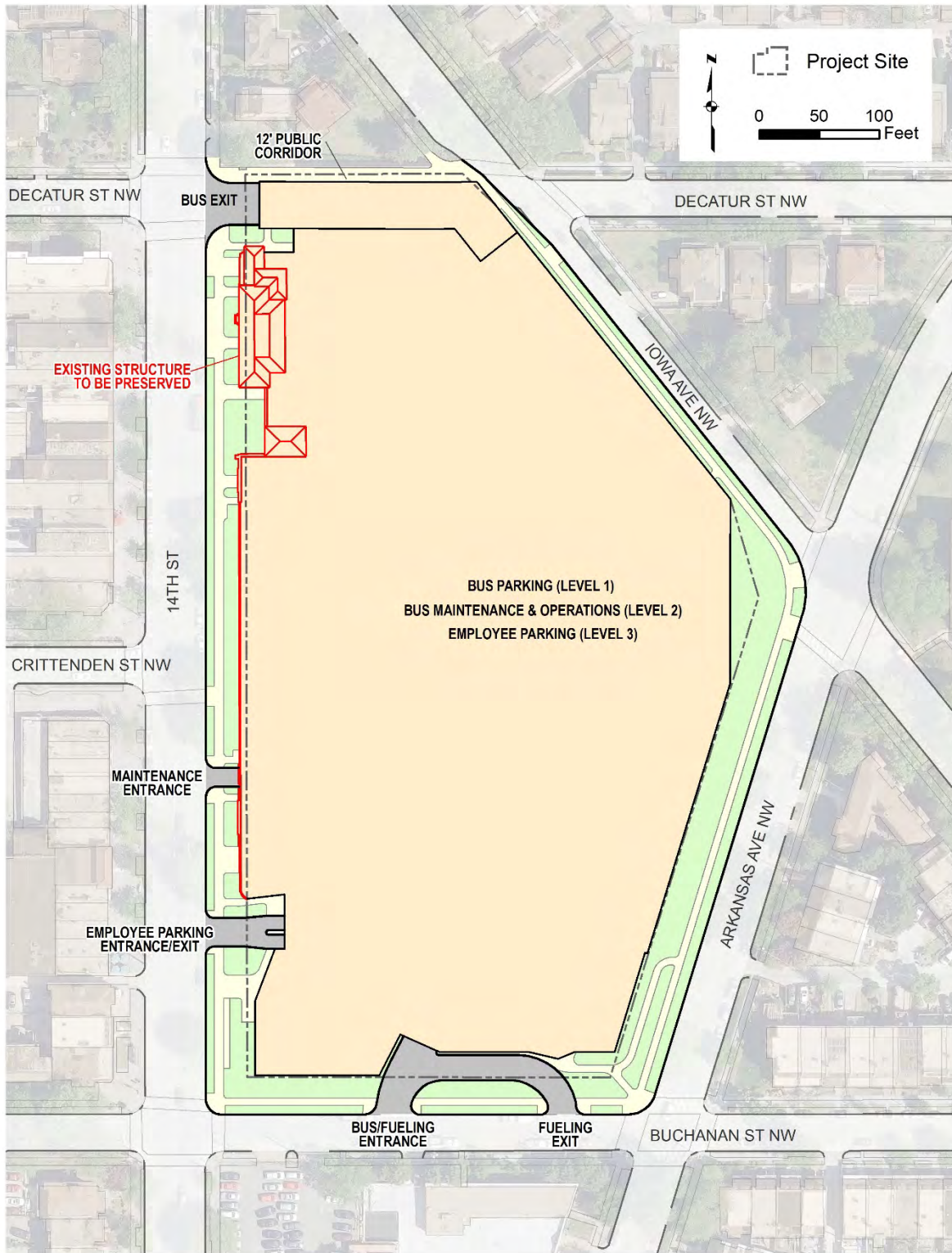


Figure 7: Detailed Project Concept (Proposed Conditions)



APPENDIX 2: COMMUNITY ENGAGEMENT MEETINGS MINUTES

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Northern Bus Garage Replacement Community Engagement Meeting 1 – Tuesday, October 13 6:00PM – 7:30 PM Draft Summary (10/20/20)

1. Overview

The Washington Metropolitan Area Transit Authority (WMATA) conducted a virtual meeting to discuss recent updates on the Northern Bus Garage replacement and provide input on the latest draft design. Based on community feedback and the May concept review hearing before DC's Historic Preservation Review Board (HPRB), WMATA significantly redesigned the project. The design modifications respond to concerns around safety, environmental impacts and aesthetics

The WMATA is seeking to obtain public feedback both during this and future meetings as well as through a survey. Feedback will be taken into consideration as a final design is presented to the public at a future meeting.

The community engagement schedule for 2020 was shared and the team is committed to further engagement in 2021.

If all approvals are obtained in 2021, demolition and construction can begin in 2022 and the project could be complete by 2026.

The meeting presentation was conducted in three segments including:

- Project Redesign
- Floor Plans and Bus Garage Functions
- Exterior Design Options

A questions and answers session was conducted after each segment's presentation.

2. Project Redesign

Presentation

A major value engineering effort was undertaken during the summer of 2020 after an initial cost estimate was higher than budgeted for the project. Community feedback was a second key driver behind this effort and community concerns were taken into consideration in a robust way.

The intent is to offer a final design for review by the Historic Preservation Review Board (HPRB). If approved, the Board refers the design proposal to the Mayor's Agent who makes a final decision on the project called a Record of Decision (ROD). The schedule is dependent on numerous factors and could not be confidently stated at the time of the meeting.

Community and agency feedback led to a significant reduction in building size, with a 15 percent reduction in total gross square footage. Designs also include a significant reduction in the massing and height of street-facing facades.

One major community concern included the need for blasting to remove bedrock. The revised design raises the basement floor by seven feet and eliminates the deepest cut under the historic administration building and tower. These two changes result in a reduction of bedrock removal needs by 80 percent, and the project team expects no blasting to be required. In addition, excavation will be mechanical, with no crushing completed onsite. This will result in considerable avoidance of noise and vibration impacts.

Other community feedback included a strong desire not to have paint and body shops onsite, and WMATA has identified alternative locations for these services so this garage site will not include paint or body shops.

The Metro Transit Police Department (MTPD) office has also moved to the corner of 14th Street NE and Buchanan Street NE to provide a strong police presence for the community and to help activate the neighborhood.

To ensure property owners surrounding the garage site are protected from negative impacts of the reconstruction project, pre- and post-construction surveys will be provided to owners of all properties within 200 feet from the WMATA property line in addition to any other nearby sensitive properties identified in consultation with the community. Surveys will be conducted by a third-party, licensed engineer. Approximately 60 days prior to the start of construction, owners will be asked to schedule a survey at their convenience. All owners will get copies of both pre- and post-construction surveys. The process for any future claims will be laid out in detail at a future date.

Questions and Answers

Q: Will an environmental assessment be completed before choosing the final path of the project?

A: The design will be finalized prior to the project team developing a documented categorical exclusion. Information on the types of environmental review will be presented during a later meeting on environmental aspects of the project. WMATA is following FTA guidance on the category of environmental documentation

Q: What types of buses will be at the facility?

A: Current plans include the bus garage hosting Clean Diesel Buses and Hybrid buses, with future alteration of the garage to service Battery Electric Buses (BEB). Transition to the BEB fleet will be discussed at the environmental meeting.

Q: Will housing be included on this site?

A: No. Two years ago, Metro studied possible site housing. This site was determined to not be a good candidate for both a bus garage and housing. When we issued a Request for Expressions of Interest two years ago, there was little interest from developers. Current zoning does not permit residential development on the site and limits the height to 50 feet. The Historic Preservation Review Board was not amenable to any increased height. Lastly, adding columns to support housing atop the garage would further constrain much needed space inside the garage.

Q: Have you been able to incorporate a wider pedestrian walkway along the north of the bus garage in line with Decatur St?

A: Yes. An exact width has not been determined yet, but the northern façade of the building has been moved to the south, which will allow for a wider walk than currently exists. As the pathway approaches 14th Street NE, it may narrow because the garage exit for buses must maintain alignment with current traffic signals. Additionally, we plan to meet with DDOT and seek recommendations from them on any modifications to the surrounding area, such as sidewalks.

Q: What was WMATA's initial budget for the project?

A: The original target price for the construction contract only (includes design and construction services) was set at \$175 million. This price excludes other expenses such as soft costs, consulting support,

contingencies, etc. With the site complexity, the initial cost proposal did not meet that target, which—along with community feedback—spurred the value engineering effort to revise designs.

Q: Is natural gas currently serving the site?

A: Yes. The building is currently and will continue to be served by natural gas as the principle HVAC fuel source.

Q: When will the garage be totally complete?

A: The exact completion date is dependent on third party approvals required for construction to begin. If these approvals are granted in 2021 then project completion is expected sometime in 2026.

Q: What are the DBE, CBE, and SBE goals?

A: Disadvantaged Business Enterprise (DBE) goals are set for the design phase only and are 25 percent. DBE and other small business type utilization goals will be set for future work once Metro negotiates the construction contract with the contractor.

3. Floor Plans and Bus Garage Functions

Presentation

WMATA presented modifications to the previous floor plan and bus garage functions. The previous design included an entrance at Arkansas Street NE and Buchanan NE, whereas the revised design moves this entrance to center block closer to where the entrance currently exists. An active street front is provided along 14th Street NE with retail space and office space for Uptown Main Street. This space was increased from 300 square feet to 525 square feet and retail space increased to 27,500 square feet, addressing two major community concerns. In addition, the MTPD police office has been moved, as discussed earlier, to the corner of 14th Street NE and Buchanan Street NE.

Bus parking spaces have been slightly reduced from 150 spaces to 143, with most provided on the basement level and approximate 20 on the level above due to the overall smaller footprint of the building that allowed for significant reduction in excavation and elimination of blasting. Bus washes are located in the basement. The bus exit remains in the same location as the previous design. The curved lane on the south side is for fuel delivery truck parking.

The redesign also includes:

- Community room with capacity of up to 150 seating and up to 200 standing
- Office space for Uptown Main Street (525 sq ft)
- Commercial and community space along 14th Street (27,500 sq ft)

The operations and maintenance level will include bus dispatch, training space, lockers, lunchroom and other employee welfare amenities. The community room remains in the same location, but the entrance has been improved to be completely ADA accessible from the sidewalk with no ramp required.

On the rooftop, there will be 326 parking spaces including 20 reserved for retail employees. The rooftop footprint has been significantly reduced and solar panels have moved to a lower roof over the administrative and retail spaces from their original location on canopies over parking spaces. HVAC will be hidden from the street with building components.

The six-foot sidewalk along 14th Street NE will be enlarged as the design is finalized. The number of entrances on 14th Street NE have been reduced due to Historic Preservation Review Board review.

Streetscape improvements will be provided along all sides of the building. The streetscape design is underway and there will be an opportunity to vote for Art-in-Transit along one or more sides of the building.

Questions and Answers

Q: What lighting changes will occur along the walkway on 14th & Decatur Streets along the Metro brick wall.

A: As the project progresses and we obtain all required approvals, we will be coordinating with the District Department of Transportation on all streetscape upgrades, including lighting.

Q: Has there been any interest in the retail space?

A: We have not put out a call to businesses at this point, as it is too early for most retail entities to make location decisions. We have done a market study and demand for retail space, and our strategy includes first recruiting for a small grocery and then recruiting for complementary retailers. If there are not grocers interested in this location, then we would move to recruiting a pharmacy as the anchor tenant and subsequently reaching out to complementary retailers.

Q: Will there be any retail patron parking in the garage? If not, how will impact on the neighborhood be mitigated?

A: No. We will work with DDOT to determine if there are street improvement configurations that might create more parking than what is currently available along 14th Street. Parking demand will also be part of the retail market surveys. However, anticipated uses are likely to be centered around businesses that should attract a neighborhood focused/serving customer base (largely “walk-up” customers). The 14th Street corridor has strong public transit coverage as well.

Q: How will the facility accommodate the original 150-bus capacity?

A: The current design for bus storage has 143 assigned parking spaces. The remaining seven buses will be staged within the maintenance level.

4. Exterior Design Options

Presentation

The project team worked with Historic Preservation Review Board staff and feedback from the community to create three redesigned options. Feedback from today's meeting and the meeting on November 2 will be used to design the final option. This final option will be presented in a future meeting. The November 2 meeting will also be used to share community survey responses and discuss feedback before moving forward with the final exterior design plan.

In all three redesign options, the building scale has been reduced by keeping the new building elevation lower than the historic building, lowering the height of the bus exit, and keeping the rear portion along Iowa Avenue at the same height or lower than the existing structure. Overall, the building relates better to surrounding buildings.

Additionally, the entrance has been reworked to be at grade, which allows ADA access without a ramp.

The Upper Main Street office entrance has been set back from the sidewalk, allowing for an at-grade entrance and for more of the historic façade to be kept perpendicular to the street.

Note: trees were digitally removed from View 6 to allow the building design to be seen. In reality, the trees obstruct the view of the building and this will continue to be the case after construction is complete as trees will remain intact.

Option 1

This option uses a neutral color palette in the new construction. The main entrance is set back to allow for a covered area in front. The goal was to create a unique pedestrian experience with a large mural. Along Iowa Avenue, the building wall is more in line with buildings across the street in terms of scale.

Option 2

This option uses more variation of color and materials and a horizontal approach. The employee entrance includes a large covered area, designed to fit in with the entrances of buildings across the street. Pedestrians will be able to see bus movements from the street through translucent windows. Along Iowa Avenue, the linear windows follow the bus ramp.

Option 3

This option reflects the historic façade in color and materials to acknowledge the old, but also differentiate from it. Brick detailing was inspired by the historic façade. New construction is set back and angled across the bus entrance as a nod to the original trolley barn design. The whole west facade is set back slightly from the property line and repeating windows on the west and south tie into historic window design. Perforated metal panels at the top of the wall of rooftop parking helps to hide the parking, reduce the scale, and provide interest.

Questions and Answers

Q: Is the Arkansas Avenue side of the building going to be taller than the existing building?

A: No, the majority of the structure facing Arkansas Ave will be lower than the existing building, except for a small portion of the car parking lot access ramp near the center of the block.

Q: What are the plans for the brick wall on 14th St, Decatur St, and Iowa Ave?

A: The existing wall will be removed as part of the reconstruction efforts, but a new wall will be built along a similar alignment that will provide full separation from bus operations. The area will be further enhanced by the introduction of fast acting overhead doors at the exist that will further help isolate bus operations from the adjacent properties.

Q: Where will the police office be located?

A: The office will be located on the corner with Buchanan, slightly set back where the repeating windows are located on the second floor. In Option 2, the windows are linear. MTPD offices have always existed in the design, but have moved out to the street front in this redesign. All WMATA non-revenue facilities have a police presence to ensure the safety and security of employees and adjacent neighborhoods, so this does not represent an expanded presence in this garage.

Q: Will retail spaces have individual entries or a central corridor?

A: The Historic Preservation Review Board disfavored new doorways in the place of current windows. The HPRB did accept one additional window being converted for fire/life safety requirements. There will still be entrances into the existing historic administration building, near the tower and additionally towards the southern end. The retail area will be another entry.

Q: What is the design for the wider sidewalk along Decatur?

A: The current designs assume a six-foot sidewalk, which is wider than what exists today. It may be wider than six feet in final design, but this will not be known until plans are final. The intent is to widen it compared to existing, but this also depends on DDOT support.

Q: Is the police office for MPD or MTPD?

A: MTPD

Q: Can public art be included in all options?

A: Yes, all three options can accommodate public art.

Q: How will the exterior design survey be distributed to ensure maximum participation?

A: The survey is located online at wmata.com/NorthernBusGarage and available for the public to complete. The link will be sent to the Northern Bus Garage email distribution list, shared with elected officials and community members for distribution through email and social media channels, and posted on Nextdoor. The project team wants as many people as possible to take the survey, so please consider sharing the link with your neighbors and friends.

Q: Does the MTPD plan to move from its current location off of Riggs Road near the Fort Totten Metro Station?

A: No. The Northern Bus Garage Project plans have always included space for an MTPD administrative office. MTPD's current location should remain the primary location for uniformed patrol officers.

Q: What will pedestrians be looking into at Buchanan Street and 14th Street?

A: This area will be a stairwell and an elevator at the corner and the primary entrance and open lobby as you move to the north.

Q: What environmental review is occurring for the project?

A: The Federal Transit Administration (FTA), as lead federal agency for this proposed project, determined that the likely class of action under the National Environmental Policy Act (NEPA) is a documented categorical exclusion (the most common type of NEPA process). More information about categorical exclusions is available on the FTA website at www.transit.dot.gov/regulations-and-guidance/environmental-programs/categorical-exclusion. Concurrently, FTA is leading the Section 106 consultation process focused on effects to historic resources.

Q: Will the 'bus exit' at Decatur be preserved as an exit?

A: This location has been an exit since at least the building renovation in the 1980s. Based on required bus circulation in the new garage, it will continue to be an exit. The building ramp will be fully enclosed and the air in the building will be "scrubbed" prior to the discharge into the environment – this includes the bus ramp portion of the building. There will also be fast-acting overhead doors at the exit, so until the bus is ready to exit, the doors will remain closed. These high-speed exit doors will be used to maintain proper airflow in the building and ensure all vehicle exhaust is treated before exiting into the environment.

5. Additional Questions

Q: What is Metro's community engagement plan for this project?

A: Community feedback has played a major role in the ongoing project redesign and we continue to actively request and value community input, including on the new exterior building design options presented to the community on Tuesday, October 13, 2020. Metro has planned three additional community meetings during the next month, including a meeting of consulting parties under Section 106 of the National Historic Preservation Act. Presentations and meeting recordings are publicly available in the ["Project Updates" section](#) of the project website. Based on project enhancements reflecting community feedback, we plan to participate in another concept review hearing before the Historic Preservation Review Board for this project.

Q: Have you engaged with the new Councilwoman and ANC for Ward 4?

A: Yes. Metro has been in regular communication with Councilmember Brandon Todd, Councilmember-elect Janeese Lewis George, and local ANC Commissioners regarding the latest updates on this Project. We have also asked their assistance in disseminating the exterior design survey throughout the community.

Q: Has the project budget changed?

A: Metro is conducting a budget reevaluation following its receipt of a contractor proposal nearly doubling the original target price. The new proposed budget for this project is being developed and more information will be available in the first quarter of 2021.

6. Next Steps

Over the next few months, the project team will actively engage with the public to conduct the survey, discuss results, and discuss final exterior design. Coordination work with DDOT will begin soon to update staff on the most recent design changes and potential improvements. The final design option is expected to be presented to the Historic Preservation Review Board in December and then to the Mayor's Agent some time after this. The website <https://www.wmata.com/initiatives/plans/northern-bus-garage/> will be updated throughout.

7. Comments

It is believed that the above represents an accurate description of the major events that transpired at this meeting. Your notification of any errors or omissions within five (5) working days of receiving these minutes is important, as the foregoing is intended to be part of the record and is the basis upon which WMATA will proceed.

Respectfully Submitted,

A handwritten signature in blue ink, appearing to read "Brian McMahon".

Brian McMahon

HNTB Project Manager

Northern Bus Garage Project Update

Community Meeting

October 13, 2020



Agenda

- I. WMATA Project Team Introductions
- II. Community Meeting Schedule
- III. Project Timeline/Where We Are
- IV. Project Redesign Overview
- V. Exterior Design Options and Public Input
- VI. Next Steps for Project

I. Project Team

Diana Levy
Director, Capital
Delivery (WMATA)

Ann Chisholm
Government
Relations
(WMATA)

Gail Ribas
Senior Director
Communications
(WMATA)

Jim Ashe
Environmental
Coordinator
(WMATA)

David Wehe
Project Manager
(WMATA rep)


Donzell Robinson
Communications
Consultant
(JSA)

Phil Sheridan
Project Director
(CLARK)

Sean Beachy
Senior Architect
(CLARK/WENDEL)

Emily Savoca
Architect
(CLARK/WENDEL)

II. Community Meeting Schedule



Northern Bus Garage Replacement



VIRTUAL COMMUNITY ENGAGEMENT MEETINGS

MEETING #1 Tuesday, October 13 Project & Design Update	MEETING #2 Monday, November 2 Draft Design Conversation
MEETING #3 Tuesday, November 10 Environmental Conversation	MEETING #4 Tuesday, November 17 Final Design Presentation

All meetings begin at 6 pm. For more information, visit wmata.com/NorthernBusGarage.



***Meeting #2 is designated as Section 106 Consulting Parties Meeting*

III. Project Timeline/Where We Are

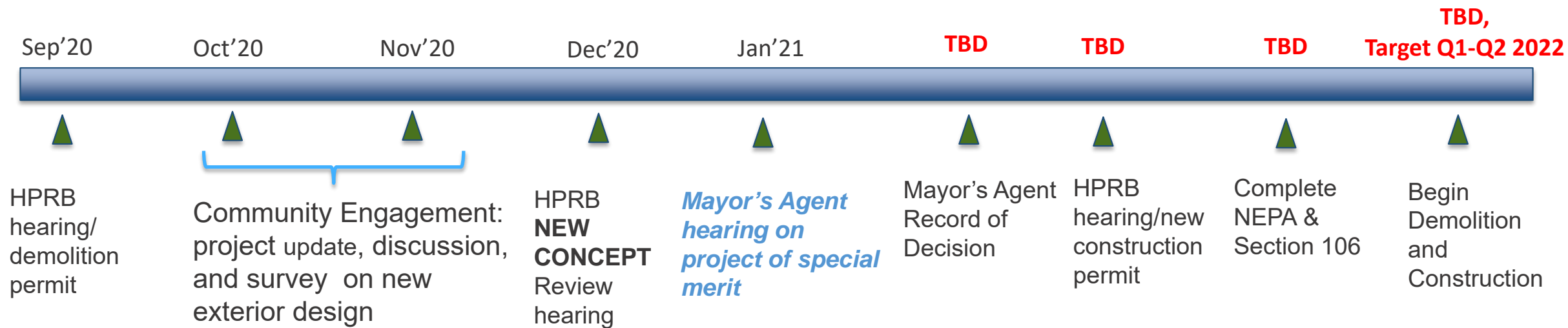
- **May 2020: Historic Preservation Review Board (HPRB) hearing**
 - HPRB concurred with proposed steps to preserve and enhance exterior historic fabric
 - HPRB provided constructive comments on architectural concepts for new construction portion of the bus garage
 - HPRB agreed that Mayor's Agent review needed due to unavoidable demolition of interior historic fabric
- **June 2020: Budget issues identified**
 - Contractor's construction cost estimate based on the original design plans was much higher than Metro's allocated budget
- **June-August 2020: Value Engineering effort undertaken**
 - Project redesign undertaken to reduce cost, optimize bus garage operations, and revise architectural concepts to better align with community and historic preservation recommendations
- **September 2020: HPRB Hearing #2 for demolition permit review**
 - Consent item to formally refer to the Mayor's Agent for review as project of special merit

Current Bus Garage Site Status

- **Bus garage is closed and not operating**
 - Small group of project team members use the office space on a regular basis
 - No construction or any other activities managed by Metro will take place until the project receives all federal and local approvals

- **Washington Gas construction activity at Decatur and 14th Street**
 - Not Metro work
 - Washington Gas Utility Relocation and Improvement project. Current utilities go under the Northern Bus Garage. This project benefits community – increased gas services.

Schedule



HPRB approval of redesign and Mayor's Agent approval of project of special merit must be received before project can begin demolition/construction



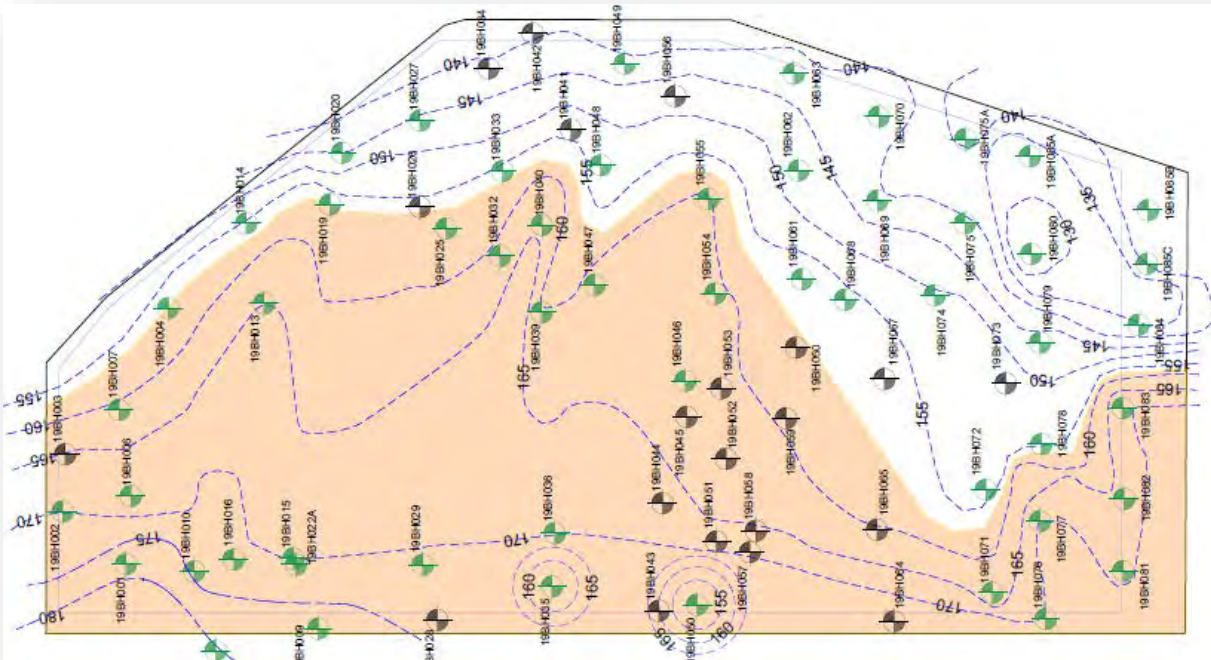
IV. Project Redesign Overview

- Reduced total size of facility by ~15% from the original designs (eliminates some building massing)
- Reduced the quantity of bedrock to be excavated by ~80% (no blasting, less vibration and noise for residents)
- Eliminated paint booth & body shop
- Moved MTPD offices to the corner of Buchanan and 14th Street to further activate neighborhood and anchor corner at the 14th Street
- Developed three revised architectural design options for community review and feedback

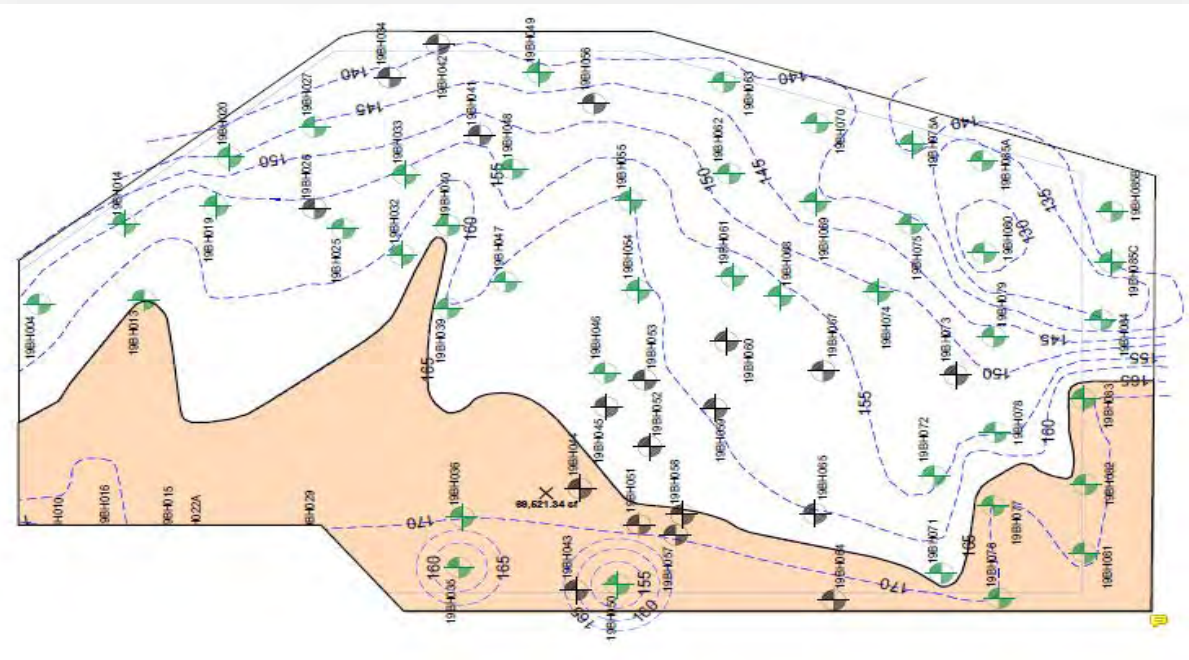
Bedrock Removal

- Reduced quantity of bedrock to be removed by 80%
- Reduced footprint of bedrock excavation by 55% (from ~161,000 to ~70,000 sq ft)
- Reduced depth of rock cutting from 15-20 vertical ft to ~5 ft, resulting in less bedrock to be removed
- All rock removal along 14th St side; no rock removal expected along Iowa or Arkansas Ave sides
- NXBurst excavation technique for rock removal is not expected to be necessary
- Expected that rock removal will be completed using mechanical methods
- No on-site crushing anticipated: all excavated rock will be taken away by dump trucks along DDOT approved routes

Area of Rock Excavation



BEFORE:
~161,000 sf



TODAY:
~70,000 sf

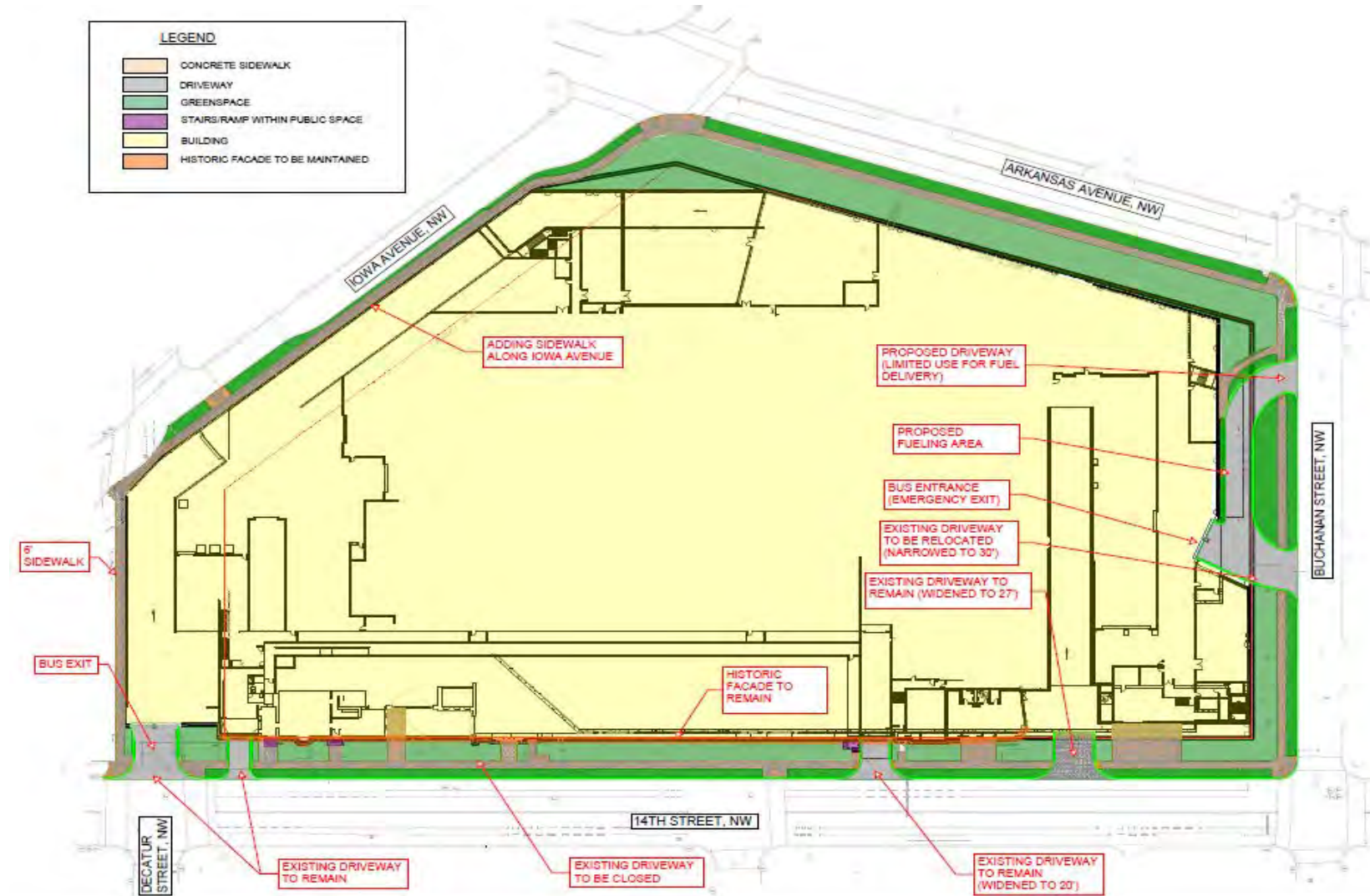
Property Surveys

- Property surveys will be conducted pre- and post-construction
- Final property survey and inspection plan will be developed by the contractor during final design
- Surveys will be performed by a third-party engineer and copy of surveys will be provided to each property owner
- Invitation to register for and schedule surveys will go out 60 days prior to start of construction by certified mail
- Community will be provided resources to understand the claims process, with questions answered throughout
- Roadmap for reporting any issues, damages and/or compensation will be developed jointly by WMATA and the contractor

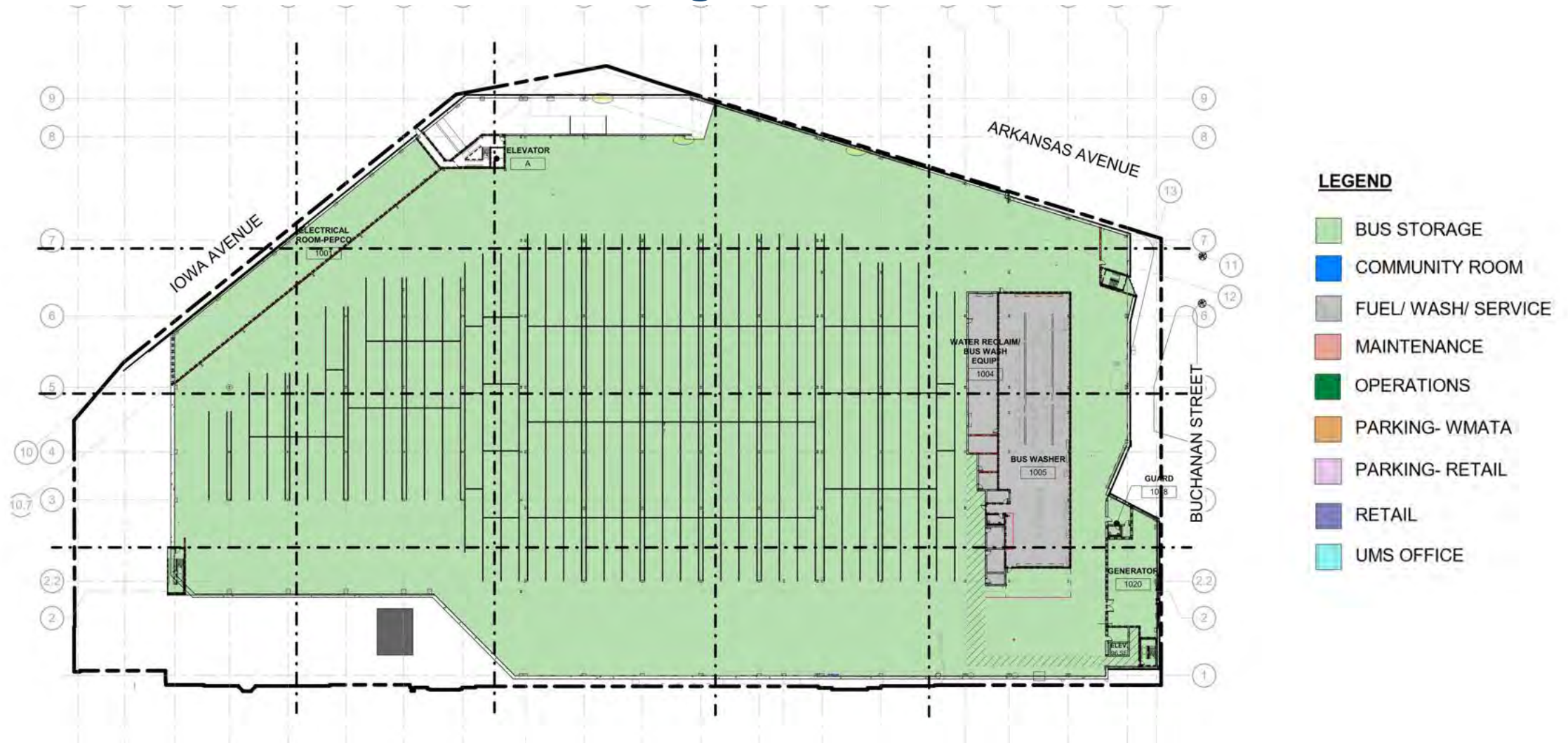
Question and Answer Period: Project Redesign Overview

- Please submit your questions via the 'Q&A' feature located at the bottom of your screen
- If the project team is unable to respond to your question during this meeting, you may contact us at MCAP_NBG_Reconstruction_Project@wmata.com
- Summary of the Q&A will be posted to: wmata.com/northernbusgarage

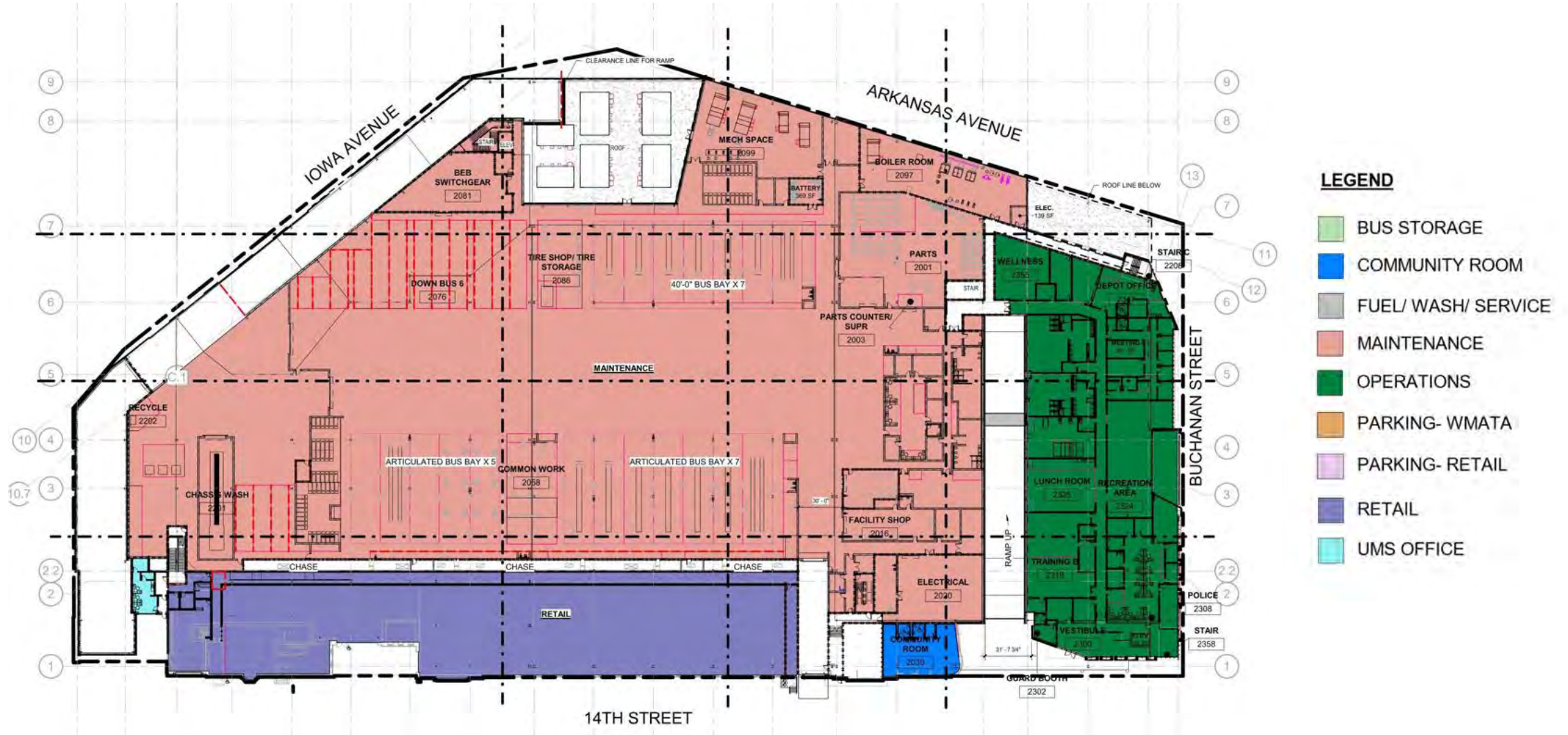
Proposed Site Plan



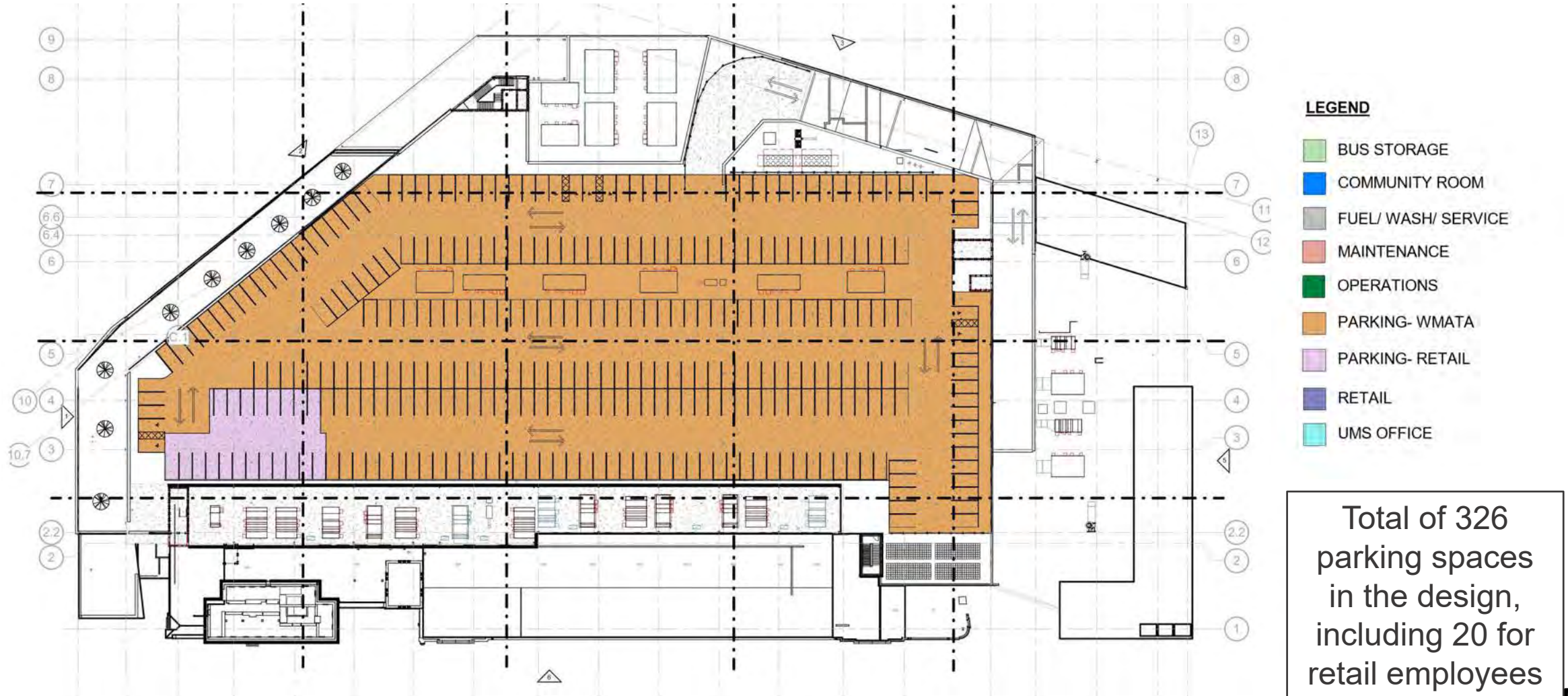
Basement Plan/Bus Storage



Operations and Maintenance Level Plan



Rooftop WMATA Parking Deck



Community Amenities

- Community room with capacity of up to 150 seating and up to 200 standing
- Office space for Uptown Main Street (525 sq ft)
- Commercial and community space along 14th Street (27,500 sq ft)
- Streetscape improvements along all sides of the building
- Art-in-Transit project can be included along one or more building sides
- On-site Metro Transit Police (MTPD) sub-station at corner of Buchanan and 14th Street

Question and Answer Period: Floor Plans and Bus Garage Functions

- Please submit your questions via the 'Q&A' feature located at the bottom of your screen
- If the project team is unable to respond to your question during this meeting, you may contact us at MCAP_NBG_Reconstruction_Project@wmata.com
- Summary of the Q&A will be posted to: wmata.com/northernbusgarage

V. Exterior Design Options & Public Input

- On-going coordination with State Historic Preservation Office (SHPO)
- **Three new design options prepared for review and feedback**
 - Developed following HPRB, SHPO & community recommendations
 - All options attempt to reflect architectural fabric of the community
- Metro will gather public input prior to developing the final exterior design proposal
- New concept for exterior design is targeted to be presented to HPRB in December

Public Survey on Exterior Design Options

- Metro developed survey to gather public input on new exterior design
- Questions ask for customer preference on three designs and provide opportunities for open feedback
- Survey responses will be presented and discussed at Community Meeting #2 on Monday, November 2

Take the survey at wmata.com/NorthernBusGarage

- **Opens:** Tuesday, Oct. 13 at 6 p.m.
- **Closes:** Tuesday, Oct. 27 at 6 p.m.



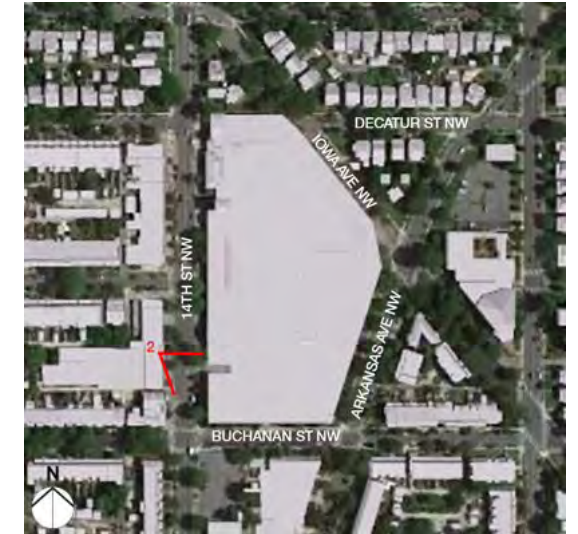
View 1 – Corner of Buchanan St NW and 14th St NW



OPTION 1 - VIEW 1



View 2 – On 14th St NW facing Southeast



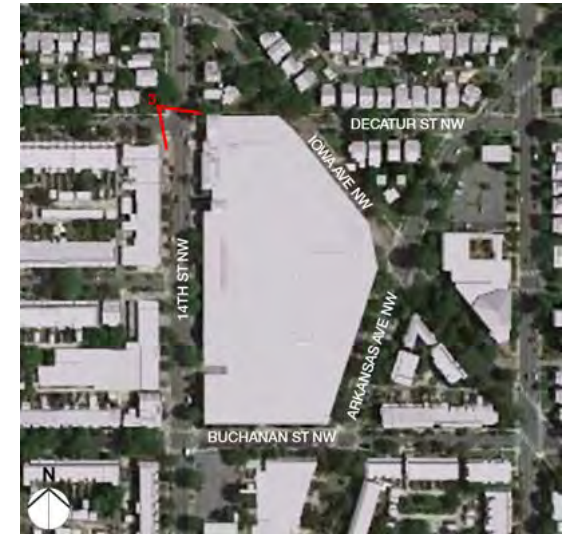
OPTION 1 - VIEW 2



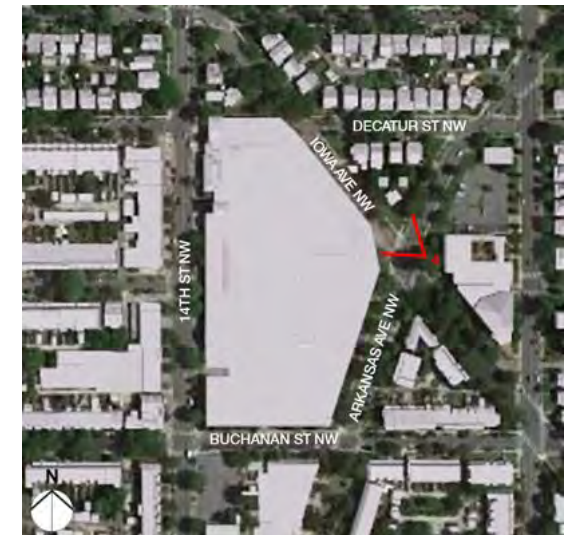
View 3 – Corner of 14th St NW and Decatur St NW



OPTION 1 - VIEW 3



View 4 – Corner of Iowa St NW and Arkansas Ave NW facing Northwest



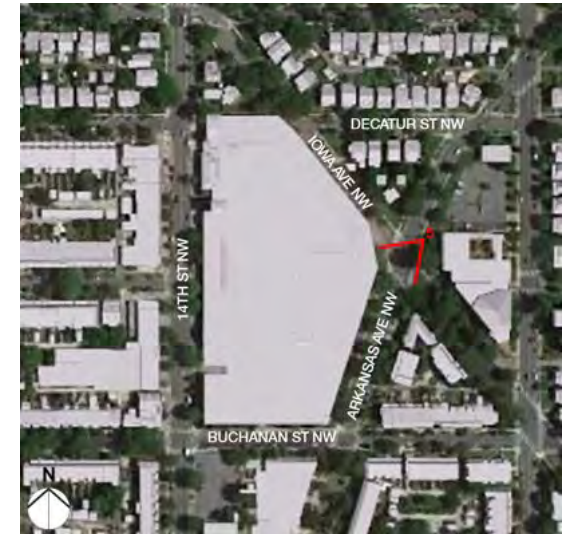
OPTION 1 - VIEW 4



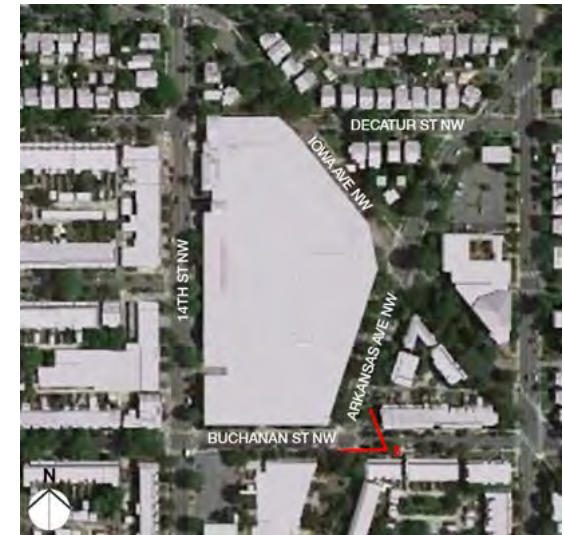
View 5 – Corner of Iowa St NW and Arkansas Ave NW Facing Southwest



OPTION 1 - VIEW 5



View 6 – Corner of Buchanan St NW and Arkansas Ave NW

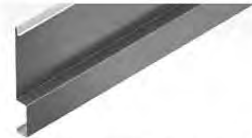


OPTION 1 - VIEW 6



Option 1 - Materials

MORIN METAL PANELS- MATRIX SERIES
INSTALLATION #1 - MATRIX 1.0 TO MATRIX 9.0 TO MATRIX 11.0



MATRIX
PANEL - MX 11.0



MATRIX
PANEL- MX 1.0



MATRIX
PANEL - MX 9.0

MORIN METAL PANELS- MONUMENTAL SERIES
INSTALLATION #2 - STACK BOND, HORIZONTAL ORIENTATION



(THE IMAGES ABOVE ARE REPRESENTATIVE OF TEXTURE ONLY
COLORS ARE INDICATED TO THE RIGHT OF THE VERTICAL LINE)



MORIN
COLOR - SLATE BLUE



MORIN
COLOR - REGAL BLUE

HOLLOW METAL DOORS AND FRAMES



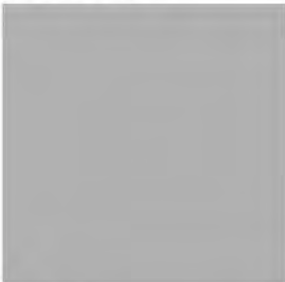
BENJAMIN MOORE - CABIN FEVER 1540

ALUMINUM CURTAINWALL SYSTEM



KAWNEER
FINISH - DARK BRONZE ANODIZED

ALUMINUM BANDING



FINISH - DOVE GRAY

BRICK



GLEN-GERY - SILVERBROOK
RUNNING BOND, MODULAR BRICK.
TEXTURE- ROCKFACE

CAST STONE



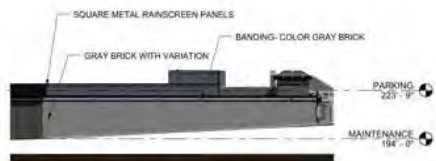
READING ROCK - CRYSTAL WHITE
WALL CAPS AND WATER TABLES

GROUND FACE



BELDEN - GF 56
RUNNING BOND, MODULAR BRICK

NBG Exterior Design Options: OPTION 1



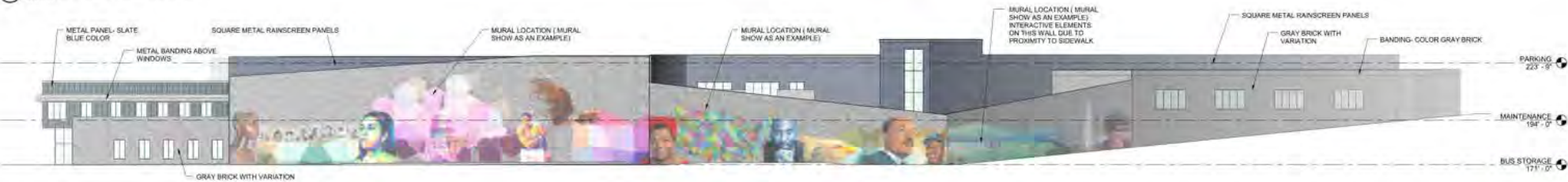
1 ELEVATION - OVERALL - NORTH
132' x 1-0"



2 ELEVATION - OVERALL - WEST
304' x 1-0"

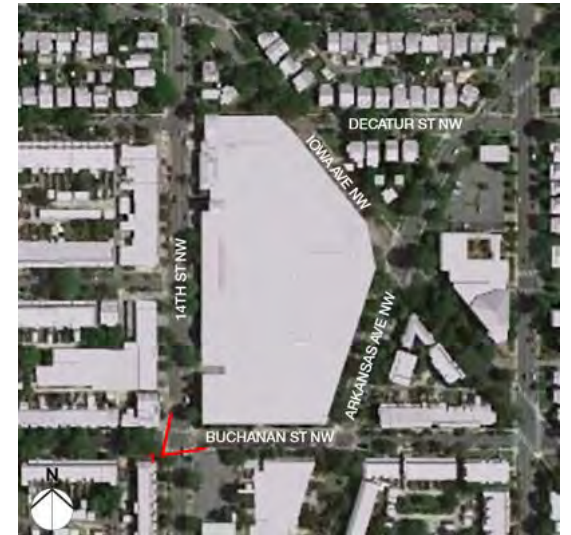


3 ELEVATION - OVERALL - SOUTH
304' x 1-0"



4 ELEVATION - OVERALL - EAST
304' x 1-0"

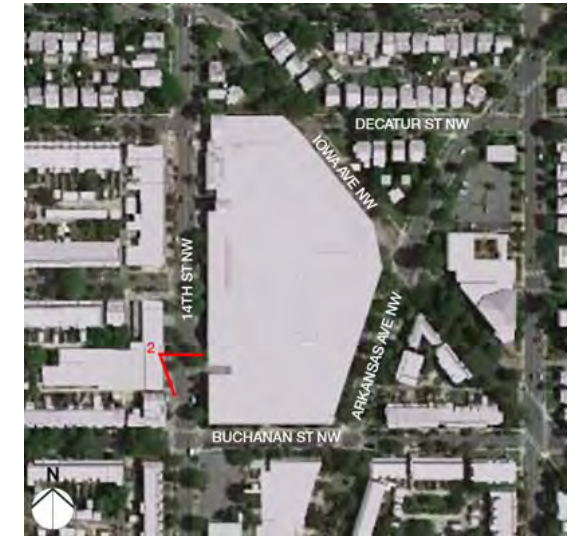
View 1 – Corner of Buchanan St NW and 14th St NW



OPTION 2 - VIEW 1



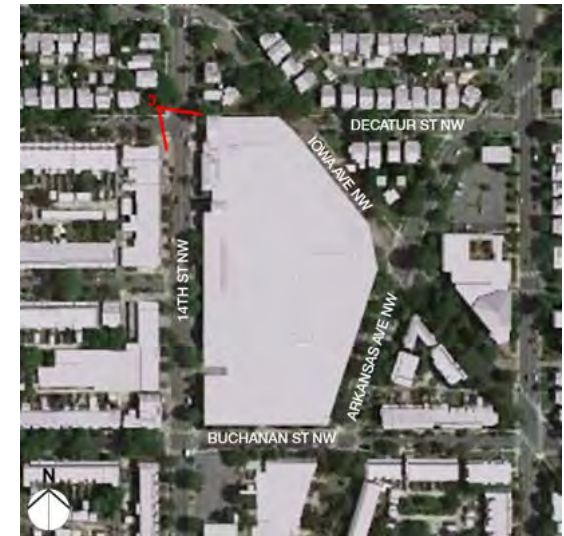
View 2 – On 14th St NW facing Southeast



OPTION 2 - VIEW 2



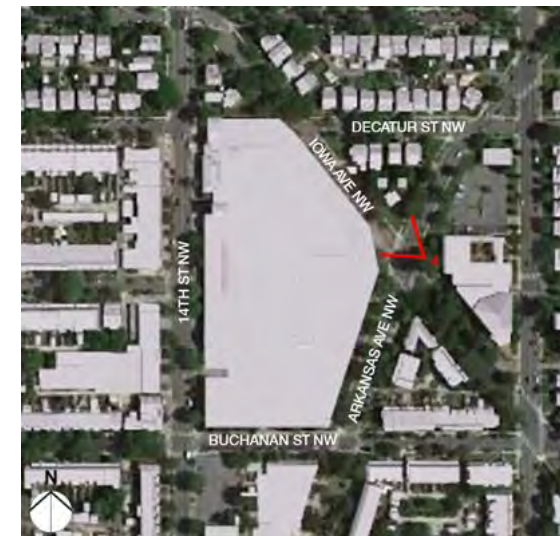
View 3 – Corner of 14th St NW and Decatur St NW



OPTION 2 - VIEW 3



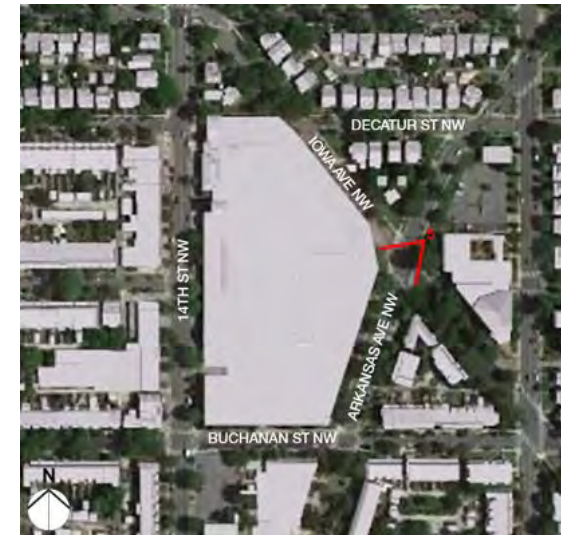
View 4 – Corner of Iowa Ave NW and Arkansas Ave NW facing Northwest



OPTION 2 - VIEW 4



View 5 – Corner of Iowa Ave NW and Arkansas Ave NW Facing Southwest



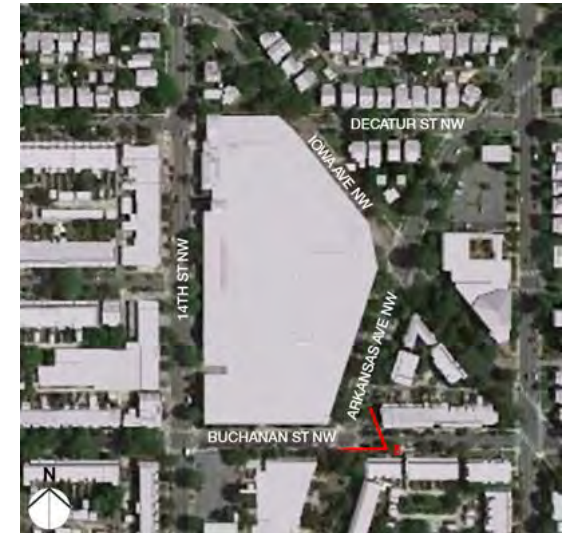
OPTION 2 - VIEW 5



View 6 – Corner of Buchanan St NW and Arkansas Ave NW



OPTION 2 - VIEW 6



Option 2 – Materials

MORIN MATRIX SERIES GALVALUME PANELS: GRAYS AND BLUES
INSTALLATION #1 - MX-1 AND MX-4 PANELS. VERTICAL ORIENTATION



MORIN
MX-1



MORIN
MX-4

MORIN MATRIX SERIES GALVALUME PANELS: GRAY MIX
INSTALLATION #2 - HORIZONTAL ORIENTATION



MORIN
MX-6



COLOR
COMET
BENJAMIN MOORE



COLOR
COMET
BENJAMIN MOORE



COLOR 2
GLACIER ICE
VALSPAR



MORIN
COLOR - DOVE GRAY



MORIN
COLOR - CHROMIUM
GRAY

ALUMINUM CURTAINWALL SYSTEM



KAWNEER
FINISH - CHAMPAGNE ANODIZED

HOLLOW METAL DOORS AND FRAMES



BENJAMIN MOORE - CABIN FEVER 1540

INSULATED WINDOW PANELS



MAPES
FINISH - LIGHT BRONZE ANODIZED

BRICK



BELDEN - 310 BELCREST
RUNNING BOND, MODULAR BRICK

GROUND FACE



BELDEN - 661 SMOOTH
RUNNING BOND, MODULAR BRICK

CAST STONE



READING ROCK - CRYSTAL WHITE
WALL CAPS AND WATER TABLES

EXTRUDED
ALUMINUM TRIM



MORIN
COLOR - SLATE BLUE

WINDOW SILL DETAIL
COLOR

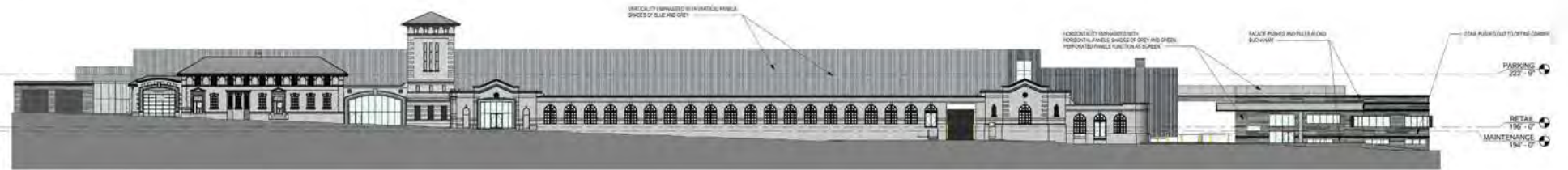


MORIN
COLOR - REGAL BLUE

NBG Exterior Design Options: OPTION 2



1 ELEVATION - OVERALL - NORTH
304' x 7'-0"



2 ELEVATION - OVERALL - WEST
304' x 7'-0"



3 ELEVATION - OVERALL - SOUTH
304' x 7'-0"



4 ELEVATION - OVERALL - EAST
304' x 7'-0"

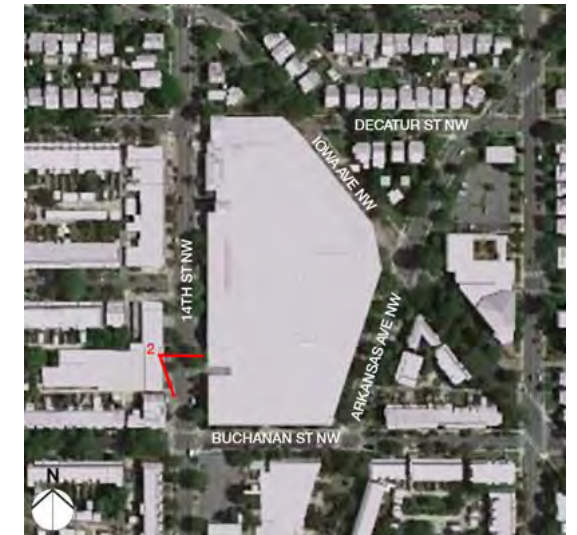
View 1 – Corner of Buchanan St NW and 14th St NW



OPTION 3 - VIEW 1



View 2 – On 14th St NW facing Southeast



OPTION 3 - VIEW 2



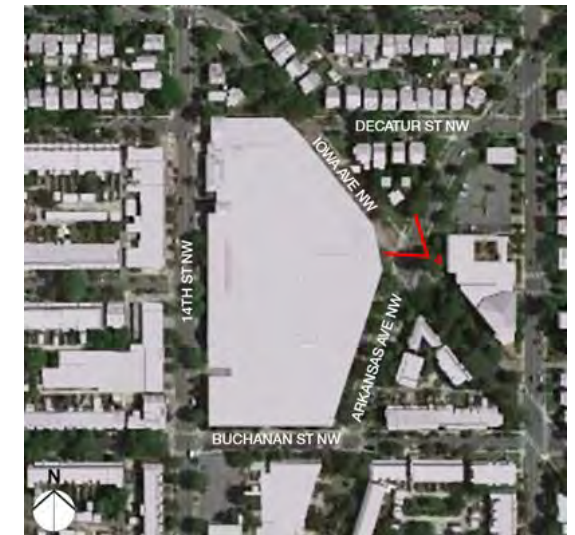
View 3 – Corner of 14th St NW and Decatur St NW



OPTION 3 - VIEW 3



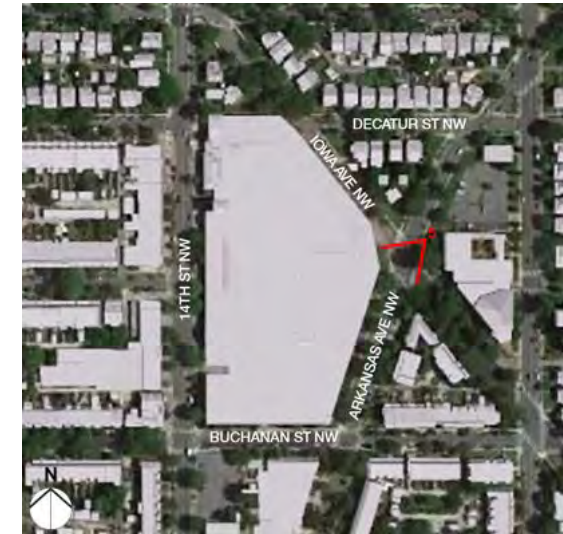
View 4 – Corner of Iowa Ave NW and Arkansas Ave NW facing Northwest



OPTION 3 - VIEW 4



View 5 – Corner of Iowa Ave NW and Arkansas Ave NW Facing Southwest



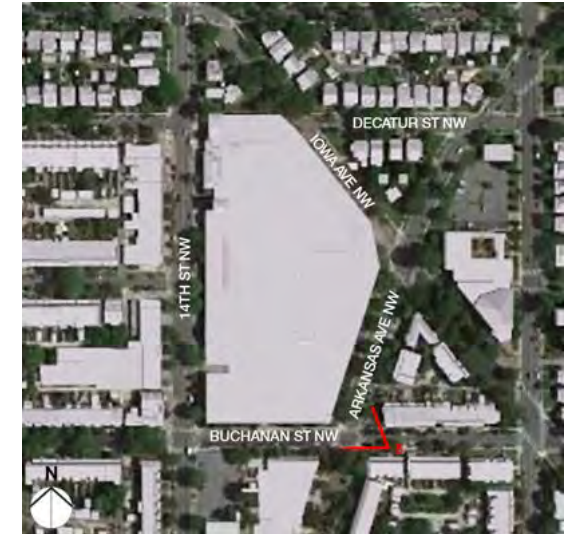
OPTION 3 - VIEW 5



View 6 – Corner of Buchanan St NW and Arkansas Ave NW



OPTION 3 - VIEW 6



Option 3 - Materials

MORIN METAL PANELS- MATRIX SERIES
INSTALLATION #1 - PANEL COLORS



INSTALLATION #1 - PANEL PROFILES



MORIN METAL PANELS- MATRIX SERIES
INSTALLATION #2 - PANEL COLORS



HOLLOW METAL DOORS AND FRAMES



BENJAMIN MOORE - CABIN FEVER 1540

ALUMINUM CURTAINWALL SYSTEM



KAWNEER
FINISH - CHAMPAGNE ANODIZED

INSULATED WINDOW PANELS



MAPES
FINISH - LIGHT BRONZE ANODIZED

GROUND FACE



BELDEN - 461 SMOOTH
RUNNING BOND, MODULAR BRICK

BRICK



GLEN-GERY - EBONITE SMOOTH
RUNNING BOND, MODULAR BRICK



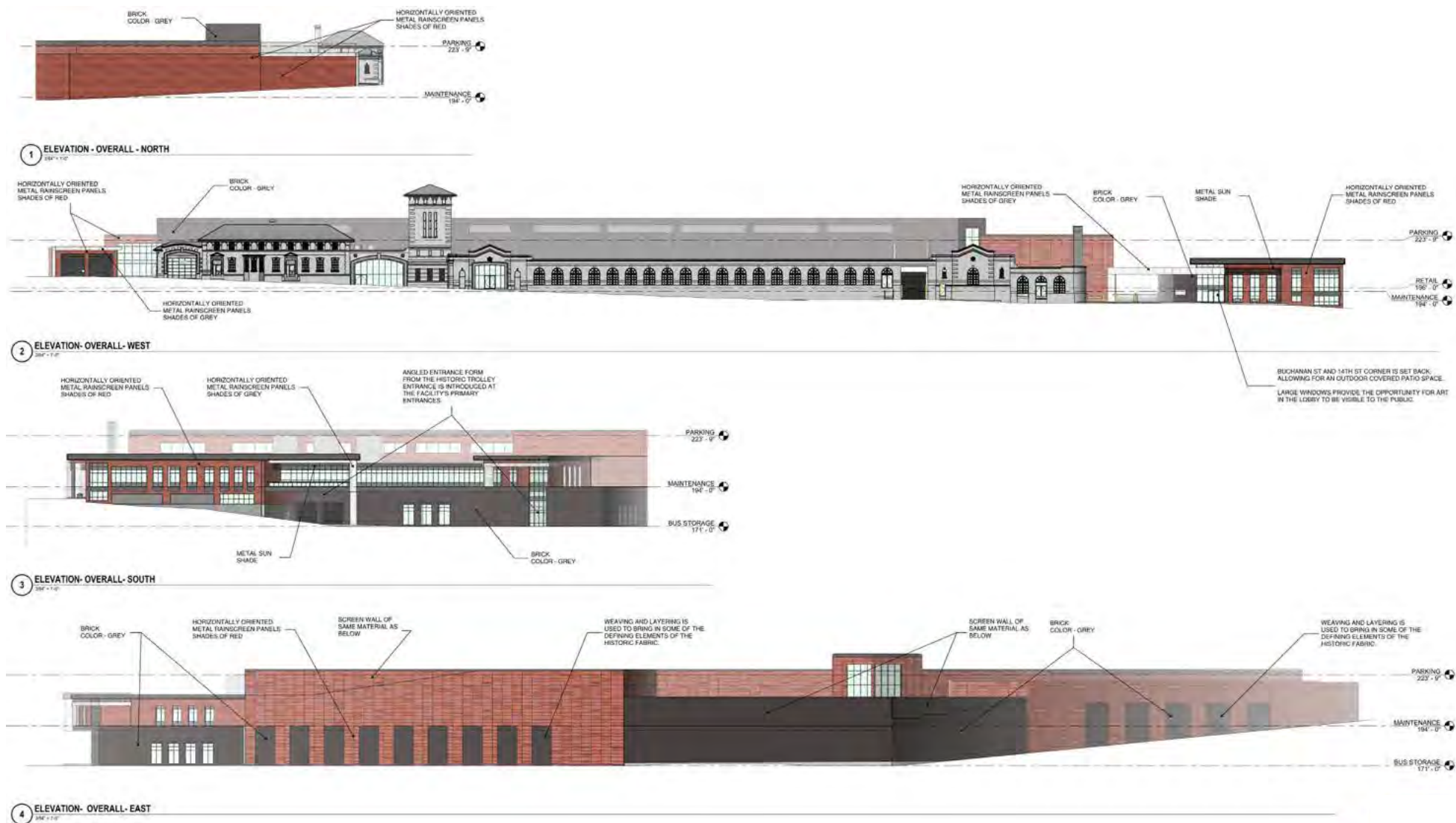
GLEN-GERY - EBONITE VELOUR
DETAILING LOCATIONS, MODULAR BRICK

CAST STONE



READING ROCK - LIGHT GRAY
WALL CAPS AND WATER TABLES

NBG Exterior Design Options: OPTION 3



Site Sections



View 1 – Corner of Buchanan St NW and 14th St NW



EXISTING - VIEW 1



View 1 – Corner of Buchanan St NW and 14th St NW



wendel

PREVIOUS DESIGN – VIEW 1

CLARK

STV 100



wendel

OPTION 1 - VIEW 1

CLARK

STV 100



wendel

OPTION 2 - VIEW 1

CLARK

STV 100



wendel

OPTION 3 - VIEW 1

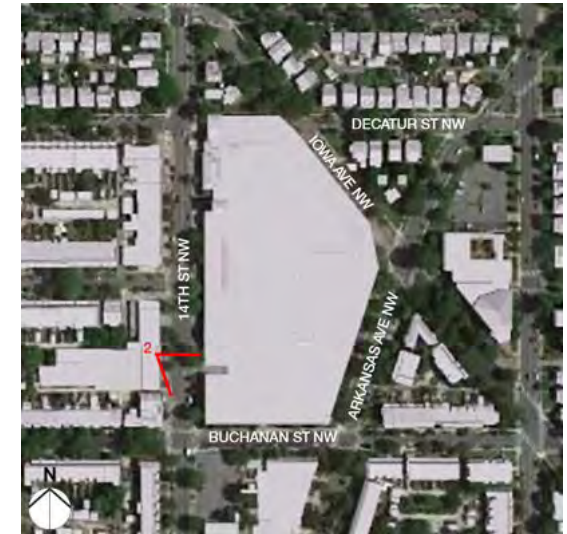
CLARK

STV 100

View 2 – On 14th St NW facing Southeast



EXISTING - VIEW 2



View 2 – On 14th St NW facing Southeast



EXISTING - VIEW 2



OPTION 1 - VIEW 2



OPTION 2 - VIEW 2



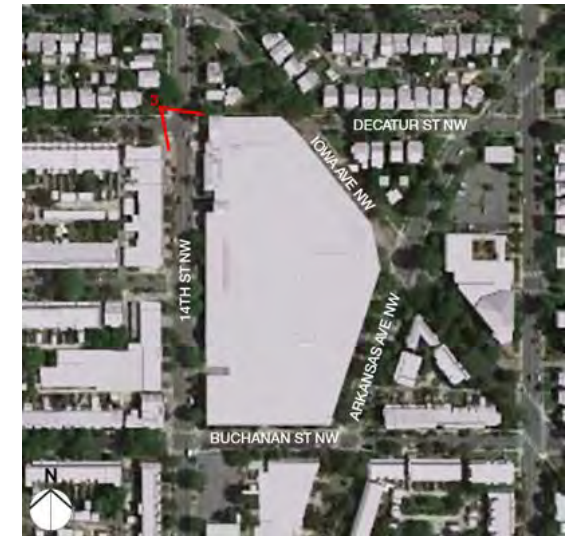
OPTION 3 - VIEW 2



View 3 – Corner of 14th St NW and Decatur St NW



EXISTING - VIEW 3



View 3 – Corner of 14th St NW and Decatur St NW



PREVIOUS DESIGN – VIEW 3



OPTION 1 - VIEW 3



OPTION 2 - VIEW 3



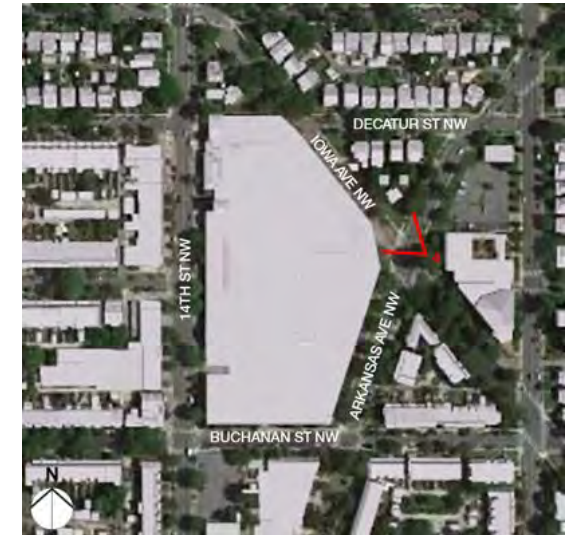
OPTION 3 - VIEW 3



View 4 – Corner of Iowa Ave NW and Arkansas Ave NW facing Northwest



EXISTING - VIEW 4



View 4 – Corner of Iowa Ave NW and Arkansas Ave NW facing Northwest



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EXISTING - VIEW 4

CLARK STV 100



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OPTION 1 - VIEW 4

CLARK STV 100



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OPTION 2 - VIEW 4

CLARK STV 100

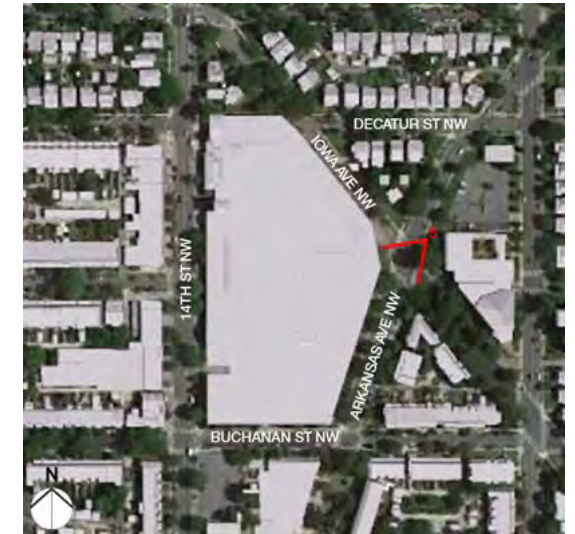


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OPTION 3 - VIEW 4

CLARK STV 100

View 5 – Corner of Iowa Ave NW and Arkansas Ave NW Facing Southwest



EXISTING - VIEW 5



View 5 – Corner of Iowa Ave NW and Arkansas Ave NW Facing Southwest



PREVIOUS DESIGN – VIEW 5



OPTION 1 - VIEW 5



OPTION 2 - VIEW 5



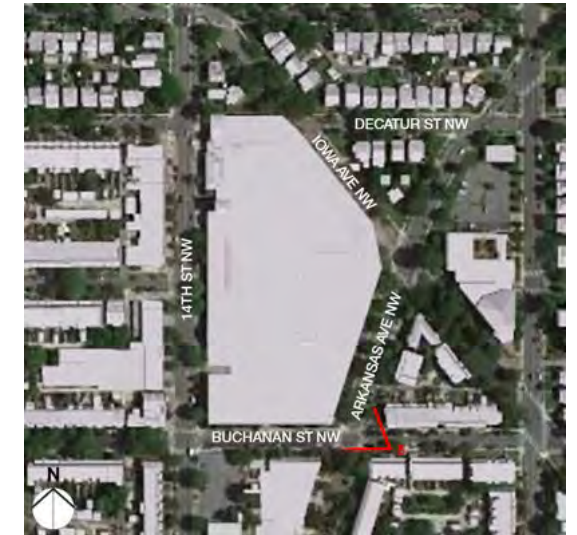
OPTION 3 - VIEW 5



View 6 – Corner of Buchanan St NW and Arkansas Ave NW



EXISTING - VIEW 6



View 6 – Corner of Buchanan St NW and Arkansas Ave NW



wendel

PREVIOUS DESIGN – VIEW 6

CLARK
CONSTRUCTION

STV
100
Years



wendel

OPTION 1 - VIEW 6

CLARK
CONSTRUCTION

STV
100
Years



wendel

OPTION 2 - VIEW 6

CLARK
CONSTRUCTION

STV
100
Years



wendel

OPTION 3 - VIEW 6

CLARK
CONSTRUCTION

STV
100
Years

Question and Answer Period: Exterior Design Options & Public Input

- Please submit your questions via the 'Q&A' feature located at the bottom of your screen
- If the project team is unable to respond to your question during this meeting, you may contact us at MCAP_NBG_Reconstruction_Project@wmata.com
- Summary of the Q&A will be posted to: wmata.com/northernbusgarage

VI. Next Steps for Project

**October-
November 2020**

Conduct series of
virtual community
meetings and
collect feedback

November 2020

Engage w/ DDOT
and provide
update on the
Garage designs

December 2020

Present final
revised design
concept to Historic
Preservation
Review Board

January 2021

Begin Mayor's
Agent process on
demolition permit

- Updates posted to wmata.com/NorthernBusGarage and shared via email
- Email MCAP_NBG_Reconstruction_Project@wmata.com to join the project's community contact list or request additional information.

Northern Bus Garage Replacement Community Engagement Meeting 2 – Monday, November 2 6:00PM – 8:00 PM Summary

1. Overview

The Washington Metropolitan Area Transit Authority (WMATA) conducted a virtual meeting to gather comment from Consulting Parties as required by Section 106 of the Historic Preservation Act. Based on community feedback and the May concept review hearing before DC's Historic Preservation Review Board (HPRB), WMATA significantly redesigned the project. The design modifications respond to concerns around safety, environmental impacts, and aesthetics.

The WMATA is seeking to obtain public feedback regarding design options to inform the final design concept to be presented at Community Engagement Meeting 4 on November 14th. This meeting served as an opportunity to do so. The on-line survey was another avenue through which the community provided feedback.

Additionally, the meeting provided an opportunity to present results of the community engagement survey that gathered feedback on the three design options presented at Community Engagement Meeting 1. All information and a meeting summary from Community Engagement Meeting 1 are online at <https://www.wmata.com/initiatives/plans/northern-bus-garage/index.cfm>.

The community engagement schedule for 2020 was shared and the team is committed to further engagement in 2021.

If all approvals are obtained in 2021, demolition and construction can begin in 2022 and the project could be complete by 2026.

The meeting presentation was conducted in three segments including:

- Section 106 Historic Preservation
- Exterior Design Concept Survey Results
- Art in Transit

A questions and answers session was conducted after each segment's presentation.

2. Section 106 Historic Preservation

Presentation

The primary purpose of the meeting was to gather feedback on impacts to the historic structure, particularly related to “adverse effects” as defined in law. Section 106 of the Historic Preservation Act requires the Federal Transit Administration (FTA) to consider project impacts on historic properties. There is one facility involved in this project, the bus garage building, and the public and Consulting Parties are invited to comment.

It has been deemed that the proposed reconstruction of the bus garage constitutes an adverse effect and the goal is to identify ways to minimize and mitigate adverse effects. The process will conclude with a Memorandum of Agreement the documents the minimization and mitigation measures.

The presentation included an image outlining the original historic Decatur Street streetcar barn structure as well as structures that have been added since.

Questions and Answers

Q: Please outline the rules/guidance involved in integrating historic and new structures for those not familiar. Is the new not allowed to match the historic in material or color?

A: The most important thing is to minimize adverse effect to the historic structure. At the same time, it is also important to have a design that complements the existing historic façade, but is clearly distinguished from the original existing historical facade. This explains the difference between the colors or materials that are used.

Q: WMATA has stated that not all space is needed for the bus facility and has included community space in the revised design. With not all space needed, why is most of the structure being torn down? This could instead be repurposed for retailers and could attract tourists.

A: Bus garage operations will take place in the area behind the historic building. To make these operations safe and efficient and to support the load of buses, walls of the historic building further from 14th Street need to be removed to install maintenance bays and connecting ramps to move buses between levels. The administration building and tower will be preserved in their entirety and all frontage along 14th Street will be saved. Retail space provided will be on the ground floor of the administration building and the corner room will be for community use.

Q: The components of the historic structure being saved seems superficial. Streetsense wants to build pedestrian traffic on that side of 14th Street but the bus exit is being kept there which seems dangerous. This should be moved to Arkansas or Buchanan, similar to how parking garage entrances in Columbia Heights are on side streets.

A: The project team has met with DDOT and the principle reason for retaining the bus exit on 14th Street at its existing location is because there is a signalized intersection at this location that allows a controlled means of movement out of the garage and creates a safe way to interact with other users of the area. The bus entrance remains on Buchanan.

Q: Older presentations showed that previous demolitions occurred around the 1980s. How much of the original structure remains currently?

A: Large portions were removed behind the façade, but left 20 feet of roof adjacent to it. Essentially everything inside the red walls was renovated in the 1980s with the exception of the tower and administration building.

3. Exterior Design Concept Survey Results

Presentation

WMATA presented results from the survey used to gather feedback from the community regarding the exterior design options presented at Community Engagement Meeting 1. The agency received 282 total responses, though a larger number of individuals viewed the survey.

The primary finding was that design option 3 was most preferred by those who responded to the survey. This preference was dominant for most of the side-by-side views provided in the survey with at least 70 percent of respondents selecting option 3. This option was less dominant in View 4 and View 5. The project team indicated these results were due to the presence of public art (murals) featured in the other options in these views. It was clear through the survey that public art was important to respondents and that art in transit should be included in the final design.

A considerable number of comments were received in the open-ended comment question and much of these focused on the integration of the historic façade with the new construction. These comments will be posted alongside survey results on the project website.

Questions and Answers

Q: On view 4, the wall elevation is different between the views. What are the heights from the parking deck?

A: View 4 of the exterior design options presented the wall along Iowa Avenue in a different manner based on the overall design. Design option 3 was selected as the preferred overall design based on community input, and the wall height shown in view 4 was lowered for the final design based on additional public feedback.

Q: Is there an option to use brick or masonry for the red part instead of metal as long as it's a different color from the original structure?.

A: The Historic Preservation Review Board and SHPO have emphasized the importance of having a design that complements the existing historic façade, but is clearly distinguished from the original existing historical façade. To differentiate the two materials, the design incorporates another type of masonry material based on feedback so that the building could blend in color but differentiate in scale of the material from the historic façade. In fact, the coloring was one topic in the draft designs that received a significant number of positive comments. During consultation, the community indicated a preference for a stone, brick, or concrete material, rather than metal panels that were originally proposed.

Q: The survey was too limited and there is considerably more feedback that members of the community want to provide. Why is WMATA limiting input into the design?

A: WMATA welcomes any feedback you have. Some significant changes have been made based on community feedback received so far, which were listed and discussed during Meeting 1. This meeting is related to historic preservation and Section 106, but the team is open to feedback on other topics too.

Q: The survey did not clearly show what was historic and what was being removed. It would be nice to see the detailed architectural drawings/designs to see where HVAC, venting, and other items will be placed to enable the community to provide feedback.

A: The design submittal to HPRB shows the extent of the historic structure that will be removed. Removal of these features is necessary to achieve the project's purpose and need. Design details may change based on continued feedback from the HPRB and community.

Q: Entry and exit of diesel buses should be on 14th Street and not on any residential streets like Buchanan Street.

A: One of the main reasons for retaining the Decatur Street exit at 14th Street is that it has a signalized intersection. This provides safe means and control of movement in the garage and interfacing with pedestrians, bikes, and vehicles.

Q: Many people voted for option 3 because renderings can be misleading or people apply their own desires to them. The warm color palette looks like the right material, but it is metal rather than brick. There

are concerns over the shade and gloss of the red metal panels. The project team should look at other masonry options beyond brick. If this building is designed to last 100 years, metal panels will not last.

A: Comment.

4. Art in Transit

Presentation

A WMATA representative presented information about the Art in Transit program that coordinates artist installation of artwork throughout agency-owned properties.

The process begins with a call for artists. Interested artists submit portfolios of past work, which are reviewed by the Artwork Review Panel consisting of both agency and community representatives. In addition to community involvement as part of the panel, selected artists are requested to have regular interaction with the community to ensure the resulting piece is reflective of community interests. However, creative license also plays a role and neither the agency nor the community can exactly dictate the result. At the same time, the agency and community agree to aesthetic criteria early in the process so all parties agree to the parameters.

The goal is for the resulting artwork to be evocative of the area or site, use material in an exciting way, and be durable and not require costly upkeep.

Examples of previous installations through the Art in Transit program were presented. None of these examples were intended to suggest what would be installed at the bus garage, but provided a variety of materials, styles, etc. for the community to see.

- Takoma Metro Station by artist Sam Gilliam, 2011.
- Shepherd Parkway Bus Facility by artist Anne Gardner, 2012.
- MTPD District II by artist Volkam Alkanoglu, 2014.

Community feedback is welcomed and encouraged about what is desired at the bus garage. There are a number of walls, which provide opportunity for murals, but this does not have to be the form it takes. Also, not all walls would be covered. The key thing is community input; size, visibility, theme, and other information will be important to receive.

Questions and Answers

Q: Many questions and concerns are being raised, but WMATA is not considering them. The community is being dismissed and the engagement process is not working. The microphone is being controlled and the only way to ask a question is by putting it in the chat box. Questions about the materials being used keep coming up and are continually deflected. Part of the reason the building is falling apart is because the building was exposed to diesel fumes from buses and the plan is to put the same diesel buses back. The survey also allowed the same person to respond multiple times, which makes the results flawed.

A: The project team is considering materials used to ensure they have a long lifespan. The greatest contributor to degradation is the sun and the panels will be designed to be durable. FTA and WMATA have material longevity requirements and both parties want the facility to last. Diesel fumes will not degrade over the short term before the battery electric bus conversion occurs. In the interim, four air exchangers will achieve close to 100% scrubbing to reduce impacts.

Q: WMATA has a long history of not maintaining its systems, being sued in the past for faulty materials and paying fines at eight facilities. How can the community trust that systems will be maintained so scrubbers achieve that level?

A:

Q: Reduction in project budget suggests cheaper and less durable materials will be used.

A: WMATA realized that \$175 million, the original amount budgeted for the project, was too little to complete the project. Most likely the end total will be in the \$300 million range. The original target price for the construction contract was established at \$175 million. WMATA wanted a design builder to design to that amount following all design specifications and requirements. This was in early 2019. A proposal was received for a price nearly double this, triggering a return to facility design to benefit the community and be more affordable to WMATA.

Q: Why has the project budget changed? (asked by a Section 106 consulting party)

A: In February 2020, Metro established a Target Price for design and construction of \$175m (this figure does not include any soft costs or consulting support costs). However, a contractor's cost proposal in the Summer 2020 indicated a cost that was more than double the Target Price. Since the re-design effort took place, many changes were made to the project scope. Metro intends to develop a revised independent cost estimate by the end of January 2021.

Q: Clarification provided by Andrew Lewis from the Historic Preservation Review Board regarding material guidance.

A: Guidance requires that new construction differentiates from the historic while being compatible. There is no moratorium against brick and the review board is willing to entertain brick usage if the community feels strongly about it. Aesthetic and durability/longevity concerns would possibly be addressed by doing so. Differentiation could be achieved by other means such as through windows and different architectural details. The historic also contains some stone. Using exclusively brick for new construction would probably not be a good idea, but could use a combination of materials like brick with metal panels for details. Terra cotta panels look like brick and could satisfy both concerns.

Q: What has artist guidance been about themes? Can the community have input on the realm of themes that could be proposed on? One recommendation is the history of the site from wild space to a nursery for a federal building, to trolley barn, to bus barn. This evolution could be interesting to capture.

A: The program usually obtains community input. One way is through the call for artists so ideas and themes are clear from the start. Another way is to encourage the artist to work directly with community representatives to make sure pieces resonate. What comes out is a little out of agency control because creative license is allowed, but input and exchange is important. Please send ideas on subject matter or sources of inspiration that the artist should explore.

Q: Are there opportunities for artwork to be something other than a mural? Sculpture, playable art, or placemaking items should be explored. (asked by a Section 106 consulting party)

A: The primary "Art in Transit" opportunity for this project includes murals on the facility walls, particularly since the walls come close to the edge of the property line, leaving little space for additional art pieces. However, we will consider other possible art opportunities beyond murals, but any such art proposals will require a closer review for feasibility.

Q: The modernization of West Elementary is a good example of how well art can be integrated into projects. There was a theme around seasons of the year and this provided a great result in this case. A variety of media was used, which was less static than a mural.

A: Comment.

Q: Option 3 was understood to be brick when completing the survey. It was hard to tell in the survey what the material actually was. Community members in general feel strongly about using brick or other masonry, particularly on the front and along Buchanan. It is good to know this is possible after HPRB clarification.

A: Option 3 did include brick, but not on the front of the building. Colors were similar so wanted to differentiate with metal there.

Q: It is important to have art around the whole building, not just on one side. This will improve aesthetics and allow the art to reach as many people as possible.

A: Comment.

Q: It is good that changes are being made that are complementary to the neighborhood and it is exciting that retail is being attracted. History is important to preserve.

A: Comment.

Q: Recommendation for art that would accent the community history and the nature of the 1906 building and how its purpose has evolved, particularly highlighting the original use of the building and its contribution as the first transit hub in the area. There seem to be no visual adverse impacts, but could the restoration efforts for the historic pieces to be retained be discussed in more detail?

A: The administration building, tower, arches, arched windows, gable entry, and chimney will be retained. Full preservation efforts will be undertaken for anything that is retained. All of the façade will be fully restored with historically accurate, matching windows but with modern materials. A new slate roof will be installed on the administration building and tower roof. Limestone and brick repairs will be completed.

Q: The original building is Italian renaissance period/style. Is there any consideration of extending that style to the new building?

A: Cantilever rooflines are intended to be complementary to the large arch treatments on the administration building and the tower. There is an effort to bring in complementary features like similar proportions in scale and repetition of elements like windows, but designs are not allowed to copy the original.

Q: Why can't more historic pieces be preserved? Are there choices for other architectural firms?.

A: The goal of the project is to ensure a functional bus facility that can accommodate the transportation needs of the community for decades to come, while maximizing historic preservation. Much of the historic building has already been substantially modified and no longer features its original integrity. The remaining historic fabric in the interior of the bus garage cannot accommodate the future operational demands of the facility and bus fleet. The design plans, however, enhance the exterior historic fabric including along the 14th Street façade. Multiple experienced engineering firms are working on this project, in addition to the Clark Construction team, to produce designs that are sensitive to preservation of historic resources.

Q: What is the budget for the conversion to the electric fleet? Is it by any chance cheaper to build the garage today with electric infrastructure?

A: The budget for conversion to an electric fleet has not been established. The Northern Bus Garage project incorporates several design choices that will facilitate electric bus technology conversation in the future, including:

- Space to accommodate Switch Gear and Transformers
- Plans for conduit to feed the future chargers
- Adequate ceiling height to allow overhead electric bus charging.

We are also working with Pepco to identify long-term power sources and electric grid improvements to support not only Metro's future bus electrification needs but also across the region.

Q: Is the community invited to the HPRB meeting in December?

A: Yes, Historic Preservation Review Board meetings are open to the public. A public notice of the meeting date and time will be posted on their website and anyone interested in attending will be able to join the meeting. A public notice will also be posted on the Northern Bus Garage site with details of the hearing.

Q: Can you confirm HPRB does not support housing on site?

A: Housing is not part of the program because the focus is a bus facility. HPRB has not weighed in on use.

Q: What are the standards used for determining historic compatibility?

A: The Department of the Interior guidance document will be posted on the project website.

Q: What is the intention with the brick wall along Iowa Ave? What about lighting and the pathway that goes from 14th Street to Decatur to Iowa?

A: The current non-historic northernmost wall along the Decatur cut-through will be removed as part of the project. A new fire-rated wall will be built in a similar location. This wall will integrate light fixtures that will follow DDOT requirements for sidewalk lighting. In addition, the project will provide an opportunity for Art in Transit along the wall. Metro is also working with DDOT to provide a wider path than the existing walkway. The team will further refine the streetscape plans in coordination with respective District government agencies.

Q: How tall will the above wall be? The current one has been a major benefit in reducing noise for residents.

A: The new wall will be more robust. Doors will be at the bus exit and air inside will be heavily filtered prior to roof exhaust. All of these elements will contribute to addressing historic problems of bus exhaust and noise.

Q: It looks like the exit on Decatur got smaller from the February original design. Why do the doors have such a low-class look to them?

A: The façade has been lowered based on comments regarding the scale of the building and requests for it to more closely reflect the adjacent neighborhood. The doors shown in the renderings reflect a high-speed coiling door. These doors would help maintain an energy efficient building by allowing a minimal amount of exterior air to infiltrate the building by opening and closing quickly as a bus approaches and exits the building. The building is negatively pressured so that interior air does not escape to the exterior without going through the scrubber system.

Q: How much money is FTA contributing to the project? (asked by a Section 106 consulting party)

A: The amount of Federal funding for this project remains to be determined, but could range from 0% to 50% of the total project cost. Metro is seeking Federal funds from the Federal Transit Administration (FTA). As a result, the project is subject to Section 106 of the National Historic Preservation Act. Section 106 requires FTA to consider views of invited Consulting Parties and the public on identification of historic properties and the effects of the project on historic properties, and to seek concurrence with the State Historic Preservation Office. Community Meeting #2 on November 2 served as a Section 106 "Consulting Parties Meeting." FTA also is the Federal agency overseeing the environmental review process regarding the Northern Bus Garage Reconstruction Project. FTA must review and approve Metro's Documented Categorical Exclusion before project demolition and construction can begin.

Q: Can FTA representatives attend the environmental meeting (Meeting 3)?

A: It is unlikely they will attend. FTA representatives attended this meeting specifically because of the Section 106 process.

Q: Can public input be provided during the Mayor's Agent process?

A: The process has not been publicized yet, so little information is known about how the community can provide input, but input is able to be provided.

5. Next Steps

Over the next few months, the project team will actively engage with the public to discuss environmental impacts (Community Engagement Meeting 3) and the final exterior design (Community Meeting 4). Coordination work with DDOT will begin soon to update staff on the most recent design changes and potential improvements. The final design option is expected to be presented to the Historic Preservation Review Board in December and then to the Mayor's Agent in January, 2021 if all goes as planned. The website <https://www.wmata.com/initiatives/plans/northern-bus-garage/> will be updated throughout.

6. Comments

It is believed that the above represents an accurate description of the major events that transpired at this meeting. Your notification of any errors or omissions within five (5) working days of receiving these minutes is important, as the foregoing is intended to be part of the record and is the basis upon which WMATA will proceed.

Respectfully Submitted,

A handwritten signature in blue ink, appearing to read "Brian McMahon".

Brian McMahon

HNTB Project Manager

Northern Bus Garage Reconstruction Project

VIRTUAL COMMUNITY MEETING #2:
SECTION 106 CONSULTING PARTIES
MEETING – DRAFT DESIGN CONVERSATION

11/02/2020



Agenda

- I. Project Team Introductions
- II. Community Input Process
- III. Federal Transit Administration Role
- IV. Exterior Design Survey
- V. Metro's Art in Transit Program
- VI. Next Steps



I. Project Team

Diana Levy
Director, Capital
Delivery
(WMATA)

Ann Chisholm
Government
Relations
(WMATA)

Gail Ribas
Senior Director
Communications
(WMATA)

Jim Ashe
Environmental
Coordinator
(WMATA)

Laurent Odde
Art in Transit
Program Manager
(WMATA)

Dan Koenig
Community
Planner
(FTA)

David Wehe
Project Manager
(WMATA rep)

Donzell Robinson
Communications
Consultant
(JSA)

Phil Sheridan
Project Director
(CLARK)

Sean Beachy
Senior Architect
(CLARK/WENDEL)

Emily Savoca
Architect
(CLARK/WENDEL)

II. Community Input Process

Meeting #1: Project Design Update

- Introduced three exterior design options; launched public survey
- Meeting presentation, video and Q&A posted online at wmata.com/NorthernBusGarage

Meeting #2: Draft Design Conversation

- Meeting serves two purposes:
 - Request public comment on exterior design options
 - Request invited Section 106 Consulting Parties to comment on historic properties
- Environmental issues will be the focus of Meeting #3
- Final survey results, meeting presentation and video will be posted online

Meeting #4: Final Design Presentation

- New exterior design concept (based on community input) scheduled to be presented to community
- Following meeting, new concept scheduled to be presented at Historic Preservation Review Board (HPRB) meeting in December

**Northern
Bus Garage
Replacement**



VIRTUAL COMMUNITY ENGAGEMENT MEETINGS

	MEETING #1 Tuesday, October 13 Project Design Update
	MEETING #2 Monday, November 2 Draft Design Conversation
	MEETING #3 Tuesday, November 10 Environmental Conversation
	MEETING #4 Tuesday, November 17 Final Design Presentation

All meetings begin at 6 pm.
For more information, visit wmata.com/NorthernBusGarage.

Public participation is solicited without regard to race, color, national origin, age, gender, religion, disability or family status. To request special accommodations under the Americans with Disabilities Act, ASL or other language interpretation services (free of charge), contact JSA, LLC at 202-610-0005 or send a message to info@jstlc.com at least 48 hours prior to the meeting date, so necessary arrangements can be made.



Federal Transit Administration (FTA) Role

- WMATA is seeking federal funds from FTA; therefore, the project is subject to Section 106 of the National Historic Preservation Act
- Section 106 of the National Historic Preservation Act requires FTA to consider views of invited Consulting Parties and the public on identification of historic properties and the effects of the project on historic properties, and to seek concurrence with the State Historic Preservation Officer
- FTA is specifically seeking comment as it relates to the adverse effect pursuant to the National Historic Preservation Act on the Northern Bus Garage

Section 106 Process

COMPLETED ACTIONS

- Section 106 initiated (April 2019)
- Consulting parties identified and invited
- Area of Potential Effects identified (April 2019)
- Determination that proposed reconstruction would constitute an “Adverse Effect” on the Northern Bus Garage, which is listed on the National Register of Historic Places as the Decatur Street Car Barn (April 2019)

REMAINING STEPS

- Identify potential minimization and mitigation measures in response to the “Adverse Effect” determination
- Receive and consider Consulting Party comments
- Execute a Memorandum of Agreement to document mitigation and minimization measures to resolve adverse effects

Existing Conditions



Discussion Period 1

- Seeking comments about the effects to the historic structure and proposals to mitigate and minimize effects to the structures from Consulting Parties
- Seeking questions and comments about the exterior design from the community
 - Please submit your questions or a request for comment via the 'Chat' feature located at the bottom of your screen. You will be called on to ask your question live in the meeting.
 - If the project team is unable to respond to your question during this meeting, you may contact us at MCAP_NBG_Reconstruction_Project@wmata.com
 - Summary of the Q&A will be posted to: wmata.com/northernbusgarage

Exterior Design Survey

- Presenting interim findings based on responses received October 13 – 27 (233 survey responses)
- Survey responses indicate Option 3 is the most preferred design option
- High preference for options with public art murals
- View that includes the historical façade chosen as most impactful to overall design assessment
- Final survey results, including summary of open-ended comments, will be available at wmata.com/NorthernBusGarage

Northern Bus Garage Reconstruction: Exterior Design Survey

Preference for View 1 – Corner of Buchanan St NW and 14th St NW



wendel

EXISTING - VIEW 1

CLARK CONSTRUCTION STV 100 YEARS



wendel

OPTION 2 - VIEW 1

CLARK CONSTRUCTION STV 100 YEARS

4%



wendel

OPTION 1 - VIEW 1

CLARK CONSTRUCTION STV 100 YEARS

15%



wendel

OPTION 3 - VIEW 1

CLARK CONSTRUCTION STV 100 YEARS

81%

Northern Bus Garage Reconstruction: Exterior Design Survey

Preference for View 2 – On 14th St NW, facing Southeast



wendel

EXISTING - VIEW 2

CLARK STV 100



12%

wendel

OPTION 1 - VIEW 2

CLARK STV 100



5%

wendel

OPTION 2 - VIEW 2

CLARK STV 100



83%

wendel

OPTION 3 - VIEW 2

CLARK STV 100

Preference for View 3 – Corner of 14th St NW and Decatur St NW



wendel EXISTING - VIEW 3 CLARK STV 100



wendel OPTION 1 - VIEW 3 CLARK STV 100



wendel OPTION 2 - VIEW 3 CLARK STV 100



wendel OPTION 3 - VIEW 3 CLARK STV 100

Northern Bus Garage Reconstruction: Exterior Design Survey

Preference for View 4 – Corner of Iowa Ave NW & Arkansas Ave NW, facing Northwest



wendel EXISTING - VIEW 4 CLARK STV 100



wendel OPTION 1 - VIEW 4 CLARK STV 100



wendel OPTION 2 - VIEW 4 CLARK STV 100



wendel OPTION 3 - VIEW 4 CLARK STV 100

Preference for View 5 – Corner of Iowa Ave NW & Arkansas Ave NW, facing Southwest

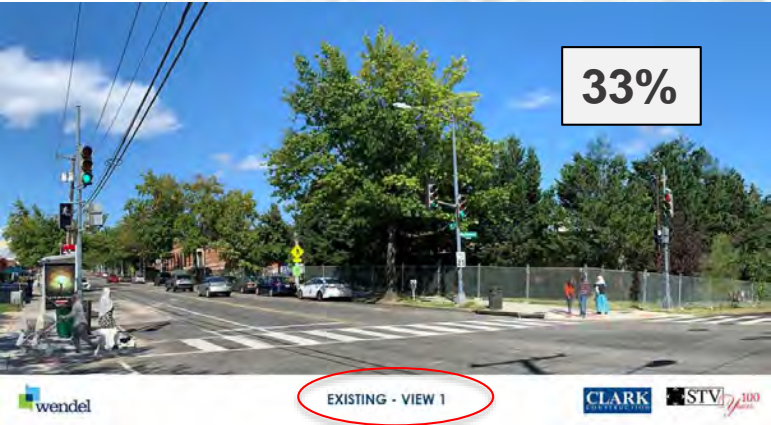


Preference for View 6 – Corner of Buchanan St NW and Arkansas Ave NW



Northern Bus Garage Reconstruction: Exterior Design Survey

Q: Which Perspective is Most Important to your Assessment of the Overall Design?



Option 3 - Materials

MORIN METAL PANELS- MATRIX SERIES
INSTALLATION #1 - PANEL COLORS



RED PANEL 1 RED PANEL 2 RED PANEL 3

INSTALLATION #1 - PANEL PROFILES



MORIN - MX 6.0 MORIN - MX 9.0

MORIN METAL PANELS- MATRIX SERIES
INSTALLATION #2 - PANEL COLORS



GREY PANEL

HOLLOW METAL DOORS AND FRAMES



BENJAMIN MOORE - CABIN FEVER 1540

ALUMINUM CURTAINWALL SYSTEM



KAWNEER
FINISH - CHAMPAGNE ANODIZED

INSULATED WINDOW PANELS



MAPES
FINISH - LIGHT BRONZE ANODIZED

GROUND FACE



BELDEN - 661 SMOOTH
RUNNING BOND, MODULAR BRICK

BRICK



GLEN-GERY - EBONITE SMOOTH
RUNNING BOND, MODULAR BRICK



GLEN-GERY - EBONITE VELOUR
DETAILING LOCATIONS, MODULAR BRICK

CAST STONE



READING ROCK - LIGHT GRAY
WALL CAPS AND WATER TABLES

Discussion Period 2

- Seeking comments about the effects to the historic structure and proposals to mitigate and minimize effects to the structures from Consulting Parties
- Seeking questions and comments about the exterior design from the community
 - Please submit your questions or a request for comment via the 'Chat' feature located at the bottom of your screen. You will be called on to ask your question live in the meeting.
 - If the project team is unable to respond to your question during this meeting, you may contact us at MCAP_NBG_Reconstruction_Project@wmata.com
 - Summary of the Q&A will be posted to: wmata.com/northernbusgarage

Metro's Art in Transit Program

- Incorporates visual and performing arts at stations and facilities to enhance the experience of the public and transit riders since 1988
- Exhibits aesthetically attractive public artworks that capture the Authority's mission and reflect the artistic, cultural and/or historical interests of the surrounding communities
- Works with visual and performing artists, other arts professionals, architects, engineers, community representatives, jurisdictional arts councils
- The Art in Transit project is not a part of the Section 106 consultation



Selection Process and Criteria for Permanent Artworks

SELECTION PROCESS

- Call for Artists
- Artwork Review Panel
- Recommendation to GM/CEO
- Final approval

CRITERIA

- Quality of the work
- Site-specificity
- Durability of materials
- Originality of approaches and methodologies
- Artist's ability to complete the project

Art in Transit: Sample Artworks

Takoma Metro Station
From Model to Rainbow, 2011
Sam Gilliam



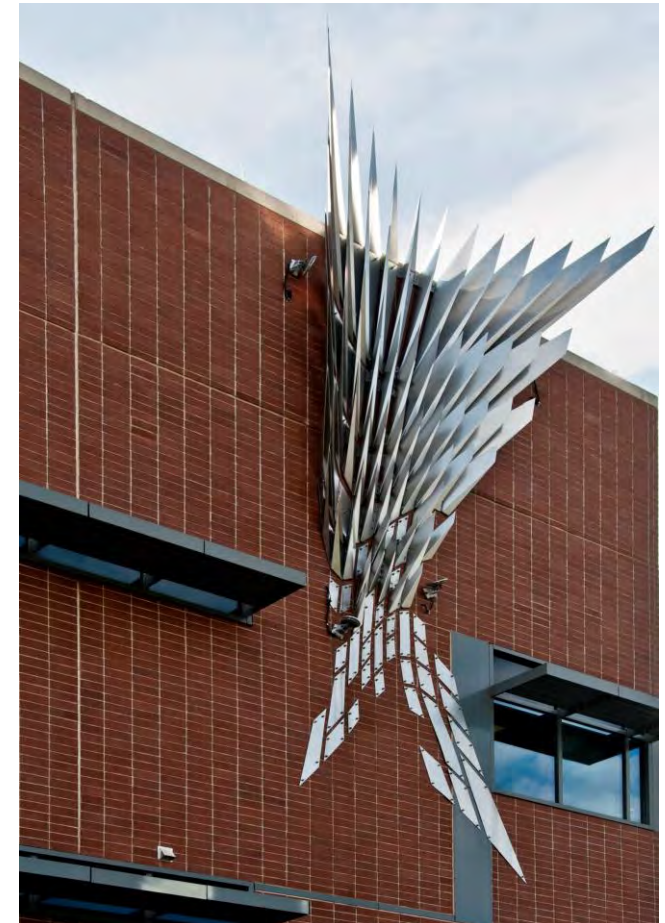
Art in Transit: Sample Artworks

Shepherd Parkway Bus Facility
North Star, 2012
Anne Gardner

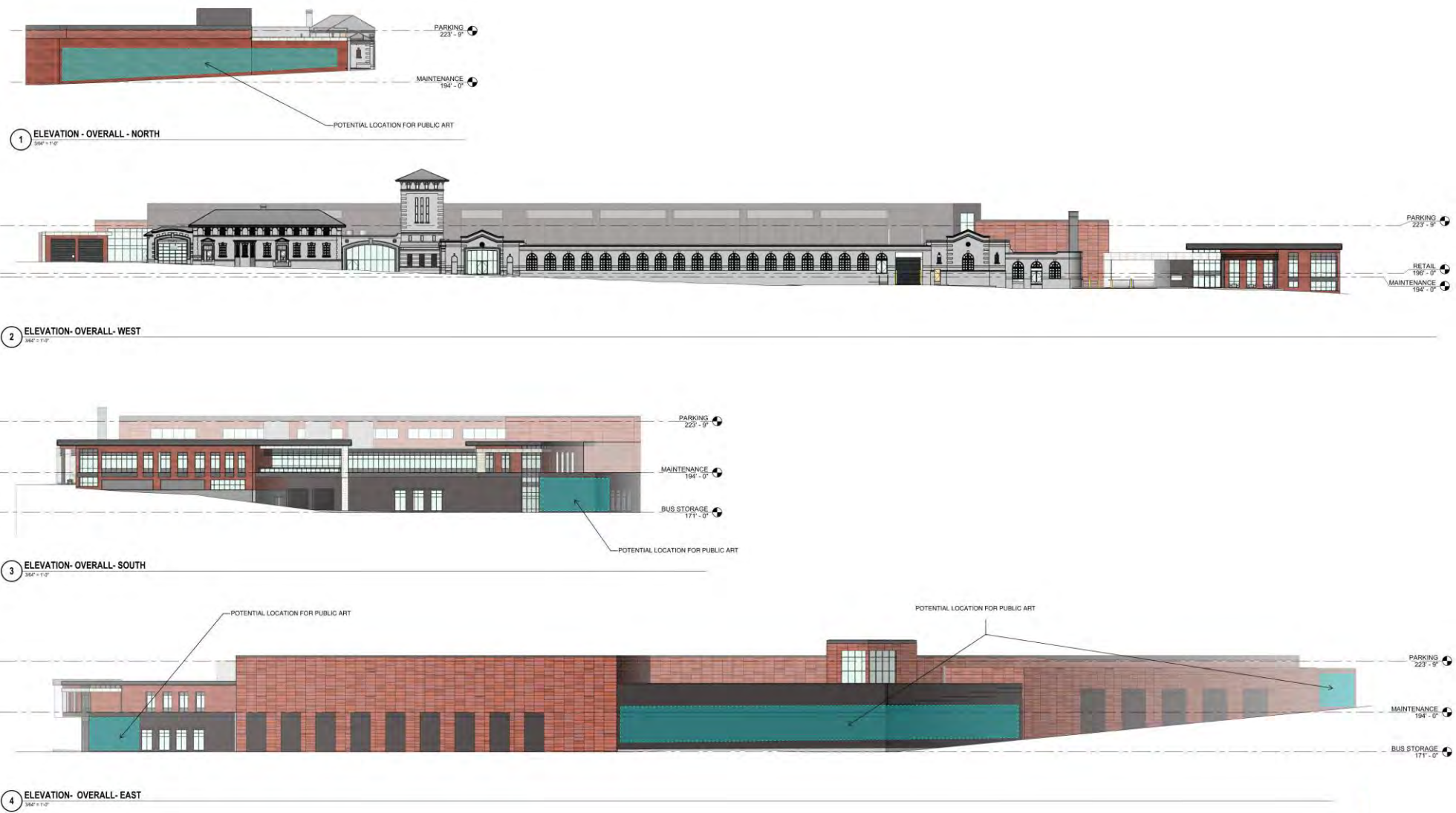


Art in Transit: Sample Artworks

MTPD District II
Plume #3, 2014
Volkan Alkanoglu



Option 3: Potential Locations for Art in Transit



Discussion Period 3

- Seeking comments about the effects to the historic structure and proposals to mitigate and minimize effects to the structures from Consulting Parties
- Seeking questions and comments about the exterior design from the community
 - Please submit your questions or a request for comment via the 'Chat' feature located at the bottom of your screen. You will be called on to ask your question live in the meeting.
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 - Summary of the Q&A will be posted to: wmata.com/northernbusgarage

VI. Next Steps for Project

November 2020

Conduct community meetings on environmental issues (11/10) and new design (11/17)

November 2020

Engage w/ DDOT and provide update on the Garage designs

December 2020

Present final revised design concept to Historic Preservation Review Board

January 2021

Anticipated to begin Mayor's Agent process on demolition permit

- Updates posted to wmata.com/NorthernBusGarage and shared via email
- Email MCAP_NBG_Reconstruction_Project@wmata.com to join the project's community contact list or request additional information

Northern Bus Garage Replacement Community Engagement Meeting 3 – Tuesday, November 10 6:00PM – 8:00 PM Meeting Summary

1. Overview

The Washington Metropolitan Area Transit Authority (WMATA) conducted a virtual meeting to gather comment from the community and interested parties regarding potential environmental impacts of the garage reconstruction project. While representatives from the FTA were not present because the meeting was local in nature, staff from the DC Department of Energy and Environment (DOEE) were present along with the WMATA project team.

Based on community feedback and the May concept review hearing before DC's Historic Preservation Review Board (HPRB), WMATA significantly redesigned the project. The design modifications respond to concerns around safety, environmental impacts, and aesthetics.

If all approvals are obtained in 2021, demolition and construction can begin in 2022 and the project could be complete by 2026.

The meeting presentation was conducted in three segments including:

- Planning and Design Phase Overview
- Pollution Minimization
- Site Remediation
- Environmental Design
- Metrobus Fleet Update

A questions and answers session was conducted after each segment's presentation.

2. Planning and Design Phase Overview

Presentation

The reconstruction project will likely obtain grant funding from the Federal Transit Administration (FTA) and one requirement of using such grant money is completion of the National Environmental Policy Act (NEPA) process. There are various environmental review types that apply depending on the project scope and anticipated impacts; these types were reviewed. The FTA has determined that the likely class of action for this project will be a documented categorical exclusion. The document will be released once complete and approved by FTA.

Prior to the federal review process, a local historic preservation review was undertaken. A design was presented to the Historic Preservation Review Board (HPRB) and the project team was referred to the Mayor's Agent for a demolition permit. In the future, a revised design concept will be presented to HPRB and the Mayor's Agent will hold a public meeting where interested parties can provide input and comment. This meeting has not yet been scheduled.

The planning process will conclude with FTA approval of documentation and an additional period of public review.

Questions and Answers

Q: When did FTA indicate its tentative conclusion regarding use of a Documented Categorical Exclusion?

A: FTA made its determination of the probable class of action in 2017 and has not indicated any change in course is warranted.

Q: Is there any chance the FTA would select the undocumented categorical exclusion path? Can the community know what to expect will come out when the document is released?

A: Metro does not expect the FTA to lower the course of action determination from the existing Documented Categorical Exclusion to an Undocumented Categorical Exclusion. For reference, topics considered under a Documented Categorical Exclusion are listed on slide six of the November 10 Community Meeting presentation.

For an example of a past Documented Categorical Exclusion regarding a Metro project, please view the Bladensburg Bus Garage Documented Categorical Exclusion here: https://www.wmata.com/initiatives/plans/upload/Bladensburg_EE-2.pdf.

Q: Will the Documented Categorical Exclusion also cover watershed issues given the Piney Branch Rock Creek Park watershed?

A: The review will address impacts to the environment caused by the project. This will include impacts to water resources and water quality.

Q: Will the analysis you are doing be communicated prior to the Categorical Exclusion? Will they allow for the community to share their concerns?

A: The protocols for NEPA analysis are found on the [FTA website](#), and Metro will follow the federal government's guidance and procedures in preparing and publicly sharing documentation since FTA is leading the environmental review.

Comments regarding the FTA's environmental review can be directed to the following individuals at Federal Transit Administration Region 3:

- Dan Koenig, Community Planner, daniel.koenig@dot.gov
- Shauna Haas, Environmental Specialist, shauna.haas@dot.gov

The FTA has directed Metro to not release any documentation until the agency has reviewed the documentation.

Q: Given that the documentation will be done in conformance with FTA guidance, shouldn't FTA be at this meeting to answer questions about their process?

A: FTA was aware of Metro's community meeting and invited to join, but declined to participate.

Q: Will particulate hot spots be assessed even though not specifically listed?

A: A hotspot analysis is not expected as part of this process. The criteria for hotspot analysis are based on one of two possibilities: (1) if the project occurs in a non-conforming area or (2) if there is a projected increase in traffic. FTA regulations do not require a hotspot analysis in other circumstances.

The Washington Metropolitan Region is not a non-conforming region. Further, we are not projecting an increase in traffic with the reconstruction of the bus garage. Rather, we anticipate a decrease in traffic due to the reduced size of the bus fleet at this garage. Therefore, a hotspot analysis is not needed.

Q: It is my understanding that FTA's regulations state that pollutant hot spots can develop where more than 10 buses are coming or leaving a transit facility within an hour, requiring a hotspot analysis. Do you anticipate more than 10 buses coming and going within the hour?

A: We do anticipate more than 10 buses per hour entering and exiting the facility. However, Metro was unable to independently identify this requirement in our review of the FTA guidelines.

3. Pollution Minimization

Presentation

The project team highlighted key features of the reconstruction that will reduce the environmental impact of the facility's functions. Based on community feedback received previously, WMATA has eliminated the paint booth from the garage design.

Air from the enclosed building will be treated prior to release. A dry scrubbing system will be installed on the roof that will first remove particulate matter using a MERV filter, similar in nature to the filters used on home HVAC systems, though professional grade. Following this, gaseous vapors will be captured by chemically bonding the vapors and storing them within the scrubber. The scrubber system noise will be blocked walls included in the roof design.

High-speed doors on the bus entrance and exit will prevent air from escaping prior to scrubbing and will also considerably reduce noise by quickly opening and closing.

Any water runoff that is tracked into the building on bus tires or through other methods will be sent through an oil-water separator and then a sand filter to pretreat water before discharge into the sewer system.

Captured rainwater will be reused for bus washes, which will save both water and cost to WMATA.

For fuel storage, two underground storage tanks will be installed along Buchanan Street. These will be located outside of the building footprint to comply with fire regulations. Tanks will be enclosed within concrete vaults outfitted with leak detection systems. Once the garage is converted to serve an all-electric fleet, tanks and associated systems will be removed.

Questions and Answers

Q: Could you provide the community with general information regarding area air quality?

A: Air quality is managed on a regional basis. In the Washington region, the Metropolitan Washington Council of Governments reviews air quality data and compares it with health criteria to determine whether the area is within health standards. If not, the region must take additional action to bring air quality to conformity. Currently, our region is in conformity.

Q: Have any passive strategies been considered to address Particulate Matter or noise pollution? More green roof materials on the upper deck (roof capacity)? Vertical components?

A: The current design incorporates green roof features; however, there is limited space on the upper deck of the garage for more. The new bus garage roof includes employee parking for Metro employees, as well as retail employees, to address past community concerns of street parking being used by Metro employees. The project team has explored vertical green walls, which were included in the initial concept design submitted to the DC Historic Preservation Review Board (HPRB) in March 2020. However, this design received negative feedback from the community and the HPRB. Based on the latest exterior design solution supported by the community, green walls would not be able to be readily integrated.

Q: The slide presentation shows noise dampers on the 14th St. side, but not where the larger dry scrubbers are; why is that?

A: The large dry scrubbers will meet all noise ordinances and the enclosures will have sound dampening. In addition, there is a parapet wall to screen the units and the design team is working to integrate further noise dampening measures.

Q: How does the dry scrubber system deal with very small particles (PM1, ultrafine nanoparticles)?

A: Although there is no regulatory requirement, the dry scrubber system is designed to remove approximately 75 percent of the PM1 particles. There are two major standards available in the market describing the efficiency of the air filters, MERV/ASHRAE 52.2 and ISO 16890.

- MERV system mostly focuses on the percentage of particles captured at specific particle size ranges as shown in the table 12-1 of the ASHRAE 52.2.

Table 12-1 Minimum Efficiency Reporting Value (MERV) Parameters

Standard 52.2 Minimum Efficiency Reporting Value (MERV)	Composite Average Particle Size Efficiency, % in Size Range, μm		
	Range 1 0.30 to 1.0	Range 2 1.0 to 3.0	Range 3 3.0 to 10.0
1	N/A	N/A	$E_3 < 20$
2	N/A	N/A	$E_3 < 20$
3	N/A	N/A	$E_3 < 20$
4	N/A	N/A	$E_3 < 20$
5	N/A	N/A	$20 \leq E_3$
6	N/A	N/A	$35 \leq E_3$
7	N/A	N/A	$50 \leq E_3$
8	N/A	$20 \leq E_2$	$70 \leq E_3$
9	N/A	$35 \leq E_2$	$75 \leq E_3$
10	N/A	$50 \leq E_2$	$80 \leq E_3$
11	$20 \leq E_1$	$65 \leq E_2$	$85 \leq E_3$
12	$35 \leq E_1$	$80 \leq E_2$	$90 \leq E_3$
13	$50 \leq E_1$	$85 \leq E_2$	$90 \leq E_3$
14	$75 \leq E_1$	$90 \leq E_2$	$95 \leq E_3$
15	$85 \leq E_1$	$90 \leq E_2$	$95 \leq E_3$
16	$95 \leq E_1$	$95 \leq E_2$	$95 \leq E_3$

- The ranges (E_1 , E_2 and E_3) are also noted in table below from ASHRAE 52.2:

Table 10-2 Size Range Groups

Average Minimum PSE Designator	Corresponding Size Range Group, μm
E_1	0.30 to 1.0
E_2	1.0 to 3.0
E_3	3.0 to 10

- The second standard is the ISO 16890, which focuses more on the particle size distribution of Particulate Matter (PM). The ISO 16890 testing method is broken down in four different categories:
 - ePM1 (the smallest and most harmful particles)
 - ePM2.5 (used mostly by the WHO and EPA)
 - ePM10 (also used by the WHO and EPA)

- ePM-Course (for very light-duty or pre-filtration applications)
- ASHRAE has developed the table below to capture the comparison between MERV system and ISO 13890:

Approximate Equivalent Ratings for Filters Tested Under ASHRAE Standard 52.2 (MERV) and ISO 16890	
ASHRAE MERV* (Standard 52.2)	ISO 16890 Rating
1-6	ISO Coarse
7-8	ISO Coarse >95%
9-10	ePM ₁₀
11-12	ePM _{2.5}
13-16	ePM ₁

-
- As seen from the table, the MERV 14 filters will capture approximately 75 percent of the PM 1 particles.

Q: The manufacturer for the scrubber products doesn't provide specs on their website. Can you provide them? Why did you select the products that you did? Why not the product targeted for diesel exhaust?

A: There are two particulate filters that are set up as pre-treatments before dry scrubber technology. The total treatment technology is designed to remove 99.5% of contaminants in the exhaust stream. Below is more information regarding the products that will be used.

Particulate matter (PM): Particulate matter is usually understood as the larger particles that are seen in the "soot" of the diesel exhaust. This will be caught in the particulate filtering phase (we are using MERV 8 and 14 filters in this case). The efficiency is typical for any MERV 8 and 14 filter from ASHRAE (about 85% and 90-95%). These different MERV filters are used to address different size particles and is what Purafil suggests in a diesel exhaust situation.

Gaseous components: The design is for a minimum of 99.5% removal efficiency for different gases that are shown on the cart below (Table 2 - referenced "The use of Purafil Media for the Control of Automotive Exhaust Fumes," Published by Purafil) through the gas adsorption phase.

TABLE 2 - Threshold Values of Selected Compounds			
Contaminant Class	Representative Compound	Threshold Limit Value (TLV, ppm)	Odor Threshold (ppm)
Aldehydes	Formaldehyde	1.0	1.0
	Acrolein	0.1	0.2-15
Carbon monoxide	Carbon monoxide	50.0	n.a.
Hydrocarbons	Toluene	200.0	2.14-15.0
	Cyclohexane	300.0	0.41
	Xylene	100	0.47-200
Oxides of nitrogen	Nitrogen dioxide	5.0	5.0
	Nitric oxide	25.0	0.3-1.0
Oxides of sulfur	Sulfur dioxide	5.0	0.47-5.0
Organic acids	Acetic acid	10.0	0.2-2.4
Others	Hydrogen sulfide	20.0	0.00047-4.6
	Ozone	0.1	0.1

Carbon Monoxide (CO): This is an odorless and colorless gas that dissipates in the environment. This is not a concern for diesel environments (see the chart below for CO in diesel fuel vs. typical gas engines - Table 1, referenced "The Use of Purafil Media for the Control of Automotive Exhaust Fumes," Published by Purafil), but we monitor this gas because it is a life safety hazard inside any building.

TABLE 1 Emission Factors	In Pounds Per 1000 Gallons of Fuel	
	Automobiles	Diesel Engines
Aldehydes (RCHO)	4	10
Carbon monoxide (CO)	2300	60
Hydrocarbons ©	200	136
Oxides of nitrogen (NO _x)	113	222
Oxides of sulfur (SO _x)	9	40
Organic acids (as acetic)	4	31
Particulates	12	110

Nitrogen oxides (NO_x): Minimum of 99.5% removal efficiency

Hydrocarbons (HC): Minimum of 99.5% removal efficiency

Volatile organic compounds (VOCs): Minimum of 99.5% removal efficiency

For all other chemicals that are included in the diesel, the proposed system typically includes them with a minimum of 99.5% removal efficiency.

Q: Where will the diesel particulate matter be collected and stored? What happens to it after you store it?

A: Particulate matter will be collected in the filter media located on the upper deck of the garage. Periodically, filters and media will be removed and replaced with fresh materials, with the collected materials disposed of safely offsite.

Q: How often will the filters be replaced? How can the community be assured that you all are going to change these filters in a timely matter?

A: We will be monitoring pressure gradients across the filters on a monthly basis, which will give us a sense on how often they will be replaced. We also have similar filter systems at other Metro facilities that are regularly replaced.

Q: Where are the other systems for recurring maintenance activity? In residential communities?

A: Metro has other bus garages in residential communities, including Western Bus Garage and Southern Avenue Bus Garage. Additionally, the police substation at Franconia-Springfield Metrorail station has a major air filtration system similar to the proposed Northern Bus Garage system. A major apartment complex is located immediately adjacent to the police substation.

Q: Over the last 40 years I have lived in the area, each time work has been done on the garage the air quality has improved. Will this project further reduce air pollution? How would you describe that in percentage terms?

A: Yes, the project will further reduce pollution associated with bus operations on the site. While Metro cannot specify a particular percentage projection at present, Metro is striving to incorporate the best available air filtering technology in the new facility. Metro takes seriously its duty to minimize its facilities' adverse impacts to surrounding residential communities. Other bus garages are likewise located in residential communities, including Western Bus Garage and Southern Avenue Bus Garage. Additionally, the police substation at Franconia-Springfield Metrorail station has a major air filtration system similar to the proposed Northern Bus Garage system. A major apartment complex is located immediately adjacent to the police substation.

4. Site Remediation

Presentation

The site has been a streetcar and/or bus maintenance facility for over 100 years and contamination from that use is present. WMATA will identify and manage this contamination. A soil and groundwater investigation has already been completed and contaminants identified are listed in the appendix of the presentation slides posted on the project website.

The agency expects to undertake remediation, which will include closing seven underground tanks, excavating contaminated soil, and removing groundwater. Contaminated soil and groundwater will be treated.

There is potential offsite contamination and WMATA will continue discussion with DOEE about this issue.

Regarding the structure itself, the remaining historic façade will have all lead removed from it. In addition, asbestos floor tiles that remained despite previous asbestos remediation efforts will be removed and PCBs found in light ballasts will be removed as well.

Questions and Answers

Q: Once the DC Department of Energy & Environment (DOEE) has assessed the underground contamination findings and advised on next steps, can the community be briefed on the findings and what further assessments will be done outside of WMATA's property? How will WMATA begin to examine contamination outside of the site? Will they show the findings to the community? What will they do about it?

A: The Department of Energy & Environment (DOEE) is assessing Metro's underground contamination findings at the project site. Metro is in discussions with DOEE about the next steps and further coordination to complete these tests. A DOEE representative was also in attendance at this meeting to address the process. Metro intends to put forward a response plan protective of human health and the environment, with the goal to clean up any contamination that is determined to present a health risk. We must coordinate with DOEE and work with other organizations in the District government, particularly public space personnel who control space around the Northern Bus Garage. Metro will ensure that we comply with all District laws and regulations for cleanup at the site, in concert with DOEE requirements.

Q: Will you be testing properties around the bus garage? How will the public be involved?

A: DOEE will ask Metro to develop a plan that will include DOEE review and guidance/direction for testing of the adjacent public spaces and potential private properties. To clarify, DOEE will not be doing the testing and is not responsible for testing. Affected property owners and stakeholders will be contacted in conjunction with such testing. The public will be involved in the review of the remediation plan as relevant sharable information becomes available.

5. Environmental Design

Presentation

In addition to the scrubbing and HVAC equipment, the roof will also have photovoltaic panels and a green roof. The green roof will consist of both tray boxes and plants installed directly into soil, though the exact arrangement and design remains to be completed as design is conceptual at this point.

The project team is pursuing LEED accreditation for this facility. Other projects have received Gold and Silver level accreditation in the past, and the goal is to achieve the highest level possible for this garage. The team has compiled a predicted scorecard which is included in the appendix of the presentation slides.

Questions and Answers

Q: Is the reduction in solar panel coverage over the parking area a result of the need to cut project costs? And will solar companies be given an opportunity to propose providing full parking area solar panel coverage at their own expense in exchange for controlling the credits?

A: At this point, this is a conceptual plan and we are working through all the details. Metro has had vendors visit other properties and install solar panels at grade.

The conceptual plan was partly driven by the cost savings. The project team continues to work with Metro's energy group to maximize solar panels while maintaining the operational needs. Given the footprint of building and the need for parking, unfortunately we could not create islands for large solar arrays. However, we plan to add as much solar as possible because of long-term operational cost savings for Metro and benefits to the neighborhood.

We will continue to look for ways to maximize solar at the garage with the design-build contractor. Because of the secure nature of the facility and the complex structural issues needed to safely support further solar canopies on the roof, it is unlikely that a third-party entity would be able to come in and install more solar panels at their own expense.

Q: Where will the major penthouse structures be located?

A: The major penthouse structure is envisioned to be along 14th Street. Its walls will be integrated into the western building façade behind the retail space.

6. Metrobus Fleet Update

Presentation

WMATA has continued to maintain compliance with increasingly strict emissions standards from the Environmental Protection Agency over time. Since 2012, the agency has replaced half of its fleet, equal to approximately 800 buses. Fleet renewal is a continuous process, but to convert to fully electric buses, the agency must coordinate with other groups. The utility grid must be upgraded to handle increased loads demanded by bus chargers, energy policy must be updated, and funding for zero-emission buses must be found. WMATA is working with regional partners to understand the cost, needs, and possibilities.

Bus maintenance and engineering offices are closely involved in bus garage design work to ensure the facility will work well once the fleet is fully electric.

Currently, phase one of the electric bus and testing process is complete and by the end of 2022 the agency will have a partial zero-emission bus fleet.

Questions and Answers

Q: Have all costs of diesel buses been considered, including the need for scrubbers, maintenance etc., compared to total cost of ownership for an electric fleet?

A: Yes, we are considering the costs related to housing diesel buses when the garage opens and later transitioning to an electric bus fleet. However, even with an electric bus fleet, there are other maintenance vehicles that would most likely not be electric and would still require the building to be protected with scrubbers and related equipment.

Q: Has a cost assessment been done to compare the cost of building design for diesel structure with intent on going electric over time vs. electric now? Several municipalities have already moved to electric, have case studies been done to compare to this?

A: A cost assessment has not been prepared. Northern Bus Garage service is needed as soon as the bus garage can be restored. The Northern Bus Garage plays a crucial role for transit in DC and Maryland. Metro ceased bus operations at this facility in Summer 2019. Buses that previously operated from this facility have moved to other garages further away, both increasing operational costs for the region and increasing “deadhead” - the amount of distance a bus travels between locations without being in service. Reducing “deadhead” miles not only minimizes fuel consumption, but also reduces emissions associated with the additional travel required between locations. Resuming service from the new Northern Bus Garage will provide an overall benefit for transit usage in the region. It is essential to resume service from the Northern Bus Garage site as soon as possible in order to provide the efficient and reliable service of the routes served by this facility, providing an overall benefit to the area. Meanwhile, the bus garage will be built for the future, incorporating design choices that facilitate future electric bus technology conversion.

Q: Can you provide us with more information regarding the challenges of implementing electric buses?

A: There are several challenges associated with implementing electric buses across the Metrobus fleet, or even at one particular garage. The first is an issue of scale. The largest electric bus fleet in North America currently hosts 60 buses, less than half the size of the fleet projected for the new Northern Bus Garage, let alone for all of Metro.

Furthermore, energy infrastructure investments, policy and rate structures and funding/construction for buses and facility conversion are required for a full-scale zero-emissions bus investment. More information on these challenges are identified in Metro's Zero-Emission Bus Update available here: <https://www.wmata.com/initiatives/sustainability/Zero-Emission-Bus-Update.cfm>.

Q: Because this is a residential community, why can't you use this as a site to pilot an electric bus fleet? Why spend money to get LEED certified? If you care about the environment, why not invest that money into electric buses?

A: It's all about timing. Metro will begin piloting zero-emissions buses at the Shepherd Parkway garage to test where the electric grid is currently available and inform our future plans. This preliminary work can be done now, instead of waiting for the new Northern Bus Garage to open in 2026. This timeline allows us to incorporate lessons learned regarding zero-emissions buses as we contemplate future bus technology conversions.

Q: What is the timing of the pilot program as it correlates to the construction of this project?

A: The electric bus test and evaluation timeline is included on slide 24 of the meeting presentation. Metro is currently in the vehicle and infrastructure design period through Spring 2021. Full performance evaluation is not expected until Winter 2023. Meanwhile, the Northern Bus Garage facility is expected to begin construction before the electric bus test and evaluation is completed.

Metro will begin piloting zero-emissions buses at the Shepherd Parkway garage to test where the electric grid is currently available and inform our future plans. This preliminary work can be done now, instead of waiting for the new Northern Bus Garage to open in 2026. This timeline allows us to incorporate lessons learned regarding zero-emissions buses as we contemplate future bus technology conversions.

Q: How long will it be until the entire bus fleet is electric?

A: No date has been set. Metro is committed to moving toward a zero-emission fleet, which requires the cooperation of local, regional, and federal governments to invest in the infrastructure needed to power electric buses, update policies and rate structures, and support funding to replace vehicles, upgrade garages and maintain the new fleet. The electric bus test and evaluation underway will help Metro identify technologies for adoption, pending funding availability. We will continue working with our regional partners to pursue these opportunities and provide an even more sustainable transportation future.

Q: WMATA left this facility in June 2018 and by their estimations will return sometime in 2025. Why not stay away as long as it takes to come back all electric?

A: Metro ceased bus operations at this facility in Summer 2019. It is essential to resume service from the Northern Bus Garage site as soon as possible in order to provide the efficient and reliable service of the routes served by this facility. Meanwhile, the bus garage will be built for the future, incorporating design choices that facilitate future electric bus technology conversion.

7. Next Steps

The project team will incorporate all feedback received to date to create a final conceptual design to present to the community at Meeting 4. This final design is expected to be presented to the Historic Preservation Review Board in December and then to the Mayor's Agent in January if all goes as planned. If the Mayor's Agent issues the needed demolition permit, a Section 106 memorandum of understanding will be signed with FTA and the State Historic Preservation Office. Following this, the documented categorical exclusion work will be packaged and submitted for approval by FTA. The website <https://www.wmata.com/initiatives/plans/northern-bus-garage/> will be updated throughout.

8. Comments

It is believed that the above represents an accurate description of the major events that transpired at this meeting. Your notification of any errors or omissions within five (5) working days of receiving these minutes is important, as the foregoing is intended to be part of the record and is the basis upon which WMATA will proceed.

Respectfully Submitted,



Brian McMahon

HNTB Project Manager

Northern Bus Garage Reconstruction Project

VIRTUAL COMMUNITY MEETING #3:
ENVIRONMENTAL CONVERSATION

11/10/2020



Agenda

- I. Project Team & Schedule
- II. Planning & Design Phase Overview
- III. Pollution Minimization
- IV. Site Remediation
- V. Environmental Design
- VI. Metrobus Fleet Update
- VII. Next Steps for Project



I. Project Team

Diana Levy
Director, Capital
Delivery
(WMATA)

Ann Chisholm
Government Relations
(WMATA)

Gail Ribas
Senior Director
Communications
(WMATA)

Jim Ashe
Environmental
Coordinator
(WMATA)


Dave Michels
Vice President
Bus Maintenance
(WMATA)

David Wehe
Project Manager
(WMATA rep)


Donzell Robinson
Communications
Consultant
(JSA)

Phil Sheridan
Project Director
(CLARK)

Community Meeting Schedule




Northern Bus Garage Replacement



VIRTUAL COMMUNITY ENGAGEMENT MEETINGS	
<p>MEETING #1 Tuesday, October 13 Project Design Update</p>	<p>MEETING #2 Monday, November 2 Draft Design Conversation</p>
<p>MEETING #3 Tuesday, November 10 Environmental Conversation</p>	<p>MEETING #4 Tuesday, November 17 Final Design Presentation</p>

All meetings begin at 6 pm. For more information, visit wmata.com/NorthernBusGarage.



***Meeting #2 was designated as Section 106 Consulting Parties Meeting*



II. Planning & Design Phase Overview

- The National Environmental Policy Act (NEPA) governs the environmental review process for federally-funded transit projects, including the Northern Bus Garage Reconstruction Project. Three possible classes of action:
 - Categorical Exclusion (undocumented and documented)
 - Environmental Assessment
 - Environmental Impact Statement
- The Federal Transit Administration determined that the project likely would be a Documented Categorical Exclusion.
- Documented Categorical Exclusion document will be released once it is complete and approved by FTA.

NEPA Topics

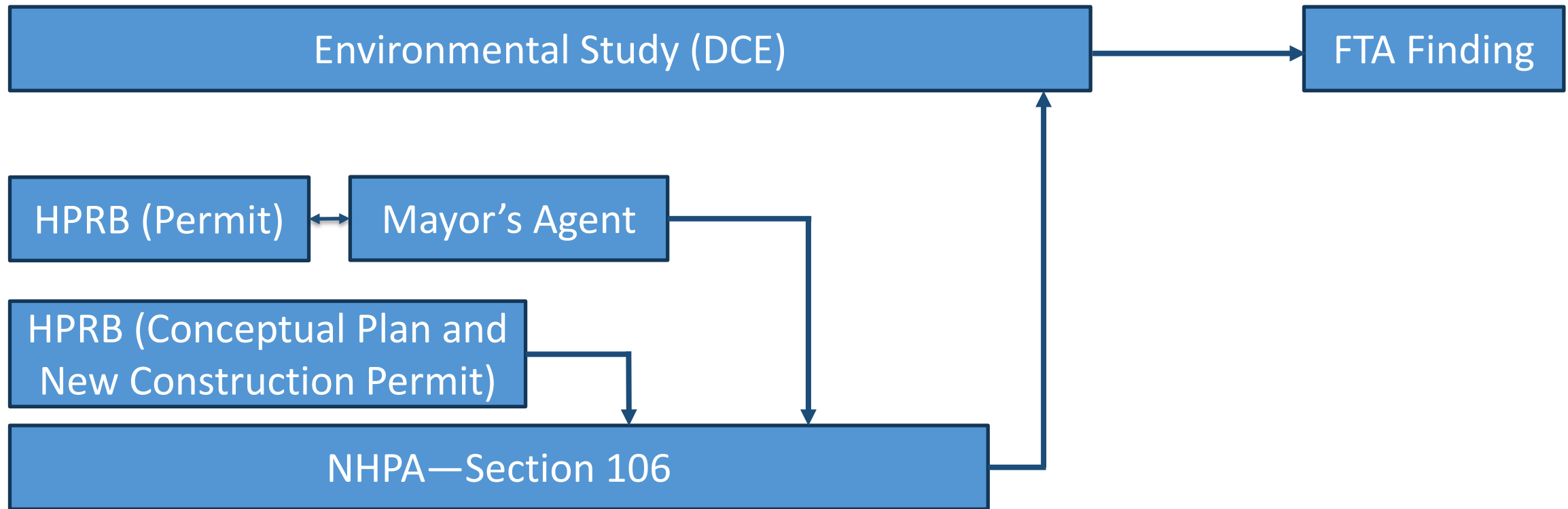
A Categorical Exclusion considers the following topics:	
Detailed Project Description	Metropolitan Planning and Air Quality Conformity
CO Hot Spots	Zoning
Traffic Impacts	Cultural Resources
Noise and Vibration	Hazardous Materials
Acquisitions and Relocations	Community Disruption and Environmental Justice
Public Parkland and Recreation Areas	Ecologically Sensitive Areas/Endangered Species
Impacts on Wetlands, Floodplain Impacts, Water Quality, Navigable Waterways, and Coastal Zones	Construction Impacts



Local Historic Preservation Process

- **May 2020:** Metro presented project design to the Historic Preservation Review Board (HPRB) for conceptual plan review.
- **September 2020:** HPRB referred the interior demolition permit application for the project to the Mayor's Agent.
- Metro has requested a hearing before the Mayor's Agent hearing officer.
(This clearance is necessary to obtain a demolition permit.)
- **December 2020:** Metro will present revised design to HPRB for conceptual plan approval.
- **January 2021** (anticipated): Mayor's Agent public hearing. Hearing date has not been set.

Planning Process



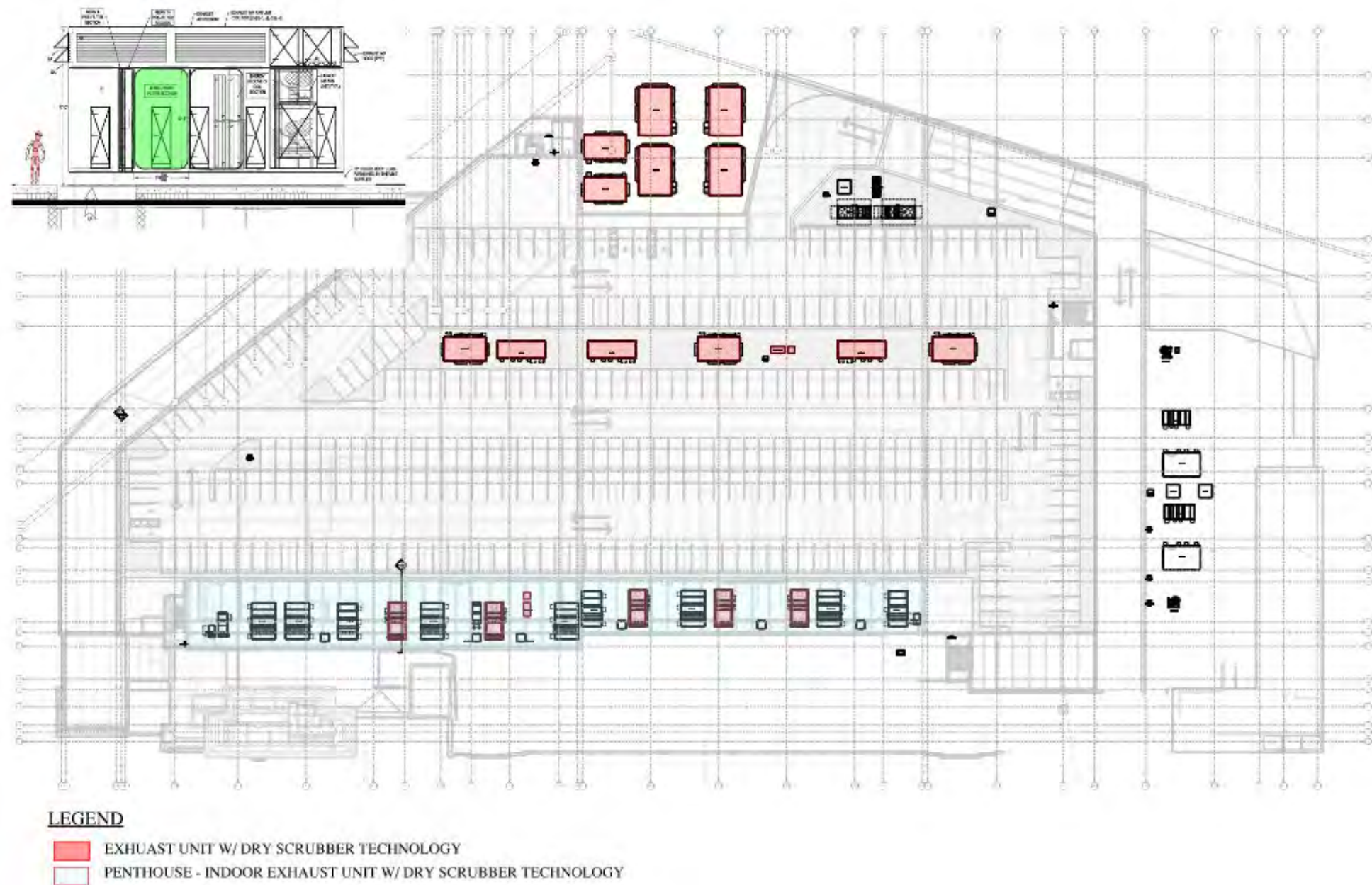
Question & Answer Period: Planning & Design Phase Overview

- Please submit your questions through the meeting chat
- If the project team is unable to respond to your question during this meeting, you may contact us at MCAP_NBG_Reconstruction_Project@wmata.com
- Summary of the Q&A will be posted to: wmata.com/NorthernBusGarage

III. Pollution Minimization (Air Quality & Noise)

- The air in the bus garage will be “scrubbed” prior to leaving the facility
 - Ventilation system is designed to ‘scrub’ the exhaust air using specialized exhaust equipment that filters the air.
 - High-speed vehicle entry/exit doors will be used to maintain proper airflow & ensure bus exhaust is treated before exiting into the environment.
- The overhead doors and the building enclosure at the Decatur Street exit will also help to isolate bus operations from adjacent properties and minimize noise levels in the community.
- Metro has eliminated paint booth from project design following community input.

HVAC & Air Scrubber Locations



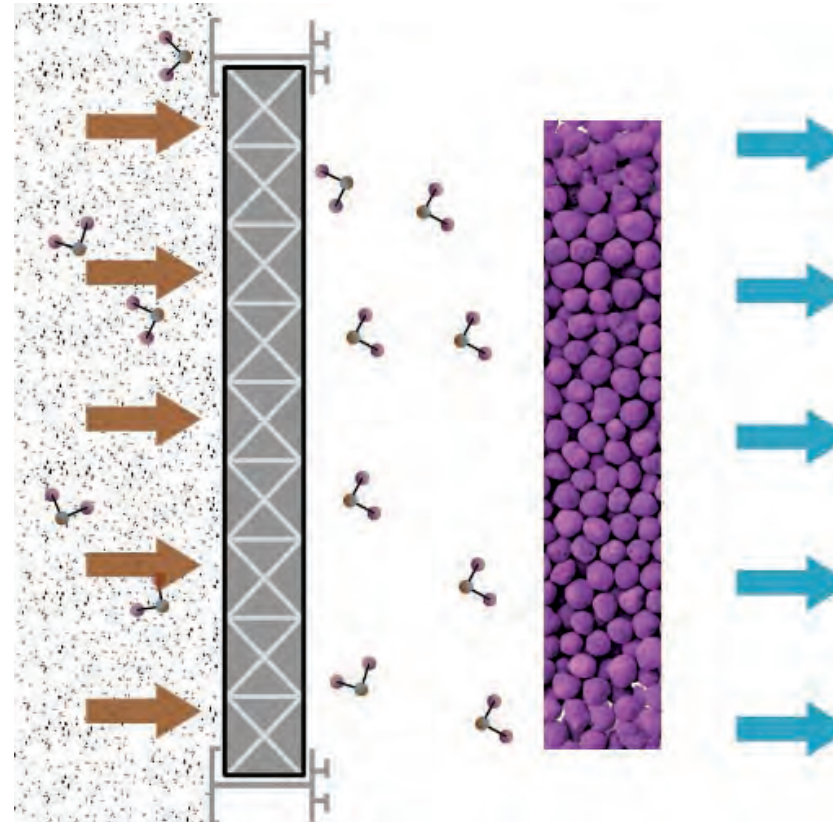
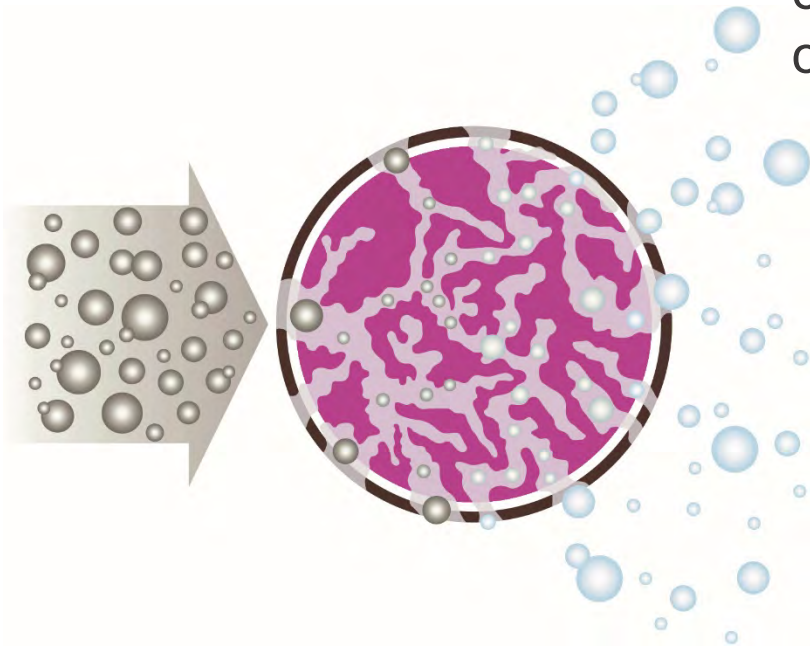
Stormwater Management

- New 120,000-gallon stormwater detention vault to manage storm flows during heavy rain events.
- New Oil-Water Separator and sand filter to pretreat runoff from buses and cars that is tracked into the building before discharge to sewer system.
- New 60,000-gallon vault system to store captured stormwater for reuse in the bus wash system (significantly reduces potable water use for facility)

Air Quality

Gas-phase Adsorption

The dry scrubber in each exhaust fan system includes a filtration process using disposable high efficiency v bank filters in order to extract contaminants. The v bank filters' chemisorptive process will remove contaminant gases by means of adsorption and chemical reaction.



WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

Fuel Management

- New double lined fuel tanks (2) located underground along Buchanan Street on Metro property
 - Must be located outside the building (NFPA requirement)
 - Each tank will be installed within a concrete vault (rather than in the ground)
 - Multiple leak detection and fuel monitoring systems per tank/vault
 - Tanks will be removed after facility is converted to full Electric Bus Fleet
- Other fluid dispensing systems will have above ground storage tanks with integral leak detection and capture systems.

Question & Answer Period: Pollution Minimization

- Please submit your questions thorough the meeting chat
- If the project team is unable to respond to your question during this meeting, you may contact us at MCAP_NBG_Reconstruction_Project@wmata.com
- Summary of the Q&A will be posted to: wmata.com/NorthernBusGarage

IV. Site Remediation

The following contaminants have been identified on the project site and will be removed following all requirements/guidelines:

- Soil and Water Contamination
 - Consistent with site history
 - Discussing next steps with DOEE
 - Remediation anticipated
- Lead Paint — various surfaces
- Asbestos — in floor tiles
- Mercury — in thermostats and fluorescent light bulbs
- PCBs — in light ballasts
- Underground Tanks (7) — Will be removed and 'closed'

[See Appendix](#) for more detailed site remediation information.

Question & Answer Period: Site Remediation

- Please submit your questions through the meeting chat
- If the project team is unable to respond to your question during this meeting, you may contact us at MCAP_NBG_Reconstruction_Project@wmata.com
- Summary of the Q&A will be posted to: wmata.com/NorthernBusGarage

Rooftop Environmental Features

Conceptual plan

Key

Solar (Photovoltaic) Panels

Green roof features



LEED Accreditation

- Metro is pursuing LEED accreditation for the new Northern Bus Garage
- Recent LEED-certified Metrobus garages projects include:

**Andrews Federal Center
Bus Garage (2020)**
Gold



**Cinder Bed Road
Bus Garage (2018)**
Gold



**Shepherd Parkway
Bus Garage (2012)**
Silver



Question & Answer Period: Environmental Design

- Please submit your questions through the meeting chat
- If the project team is unable to respond to your question during this meeting, you may contact us at MCAP_NBG_Reconstruction_Project@wmata.com
- Summary of the Q&A will be posted to: wmata.com/NorthernBusGarage

VI. Metrobus Fleet Update

- Metro operates a fleet of almost 1,600 buses serving neighborhoods and business districts across hundreds of square miles.
- We're committed to incorporating the latest technologies for the safety of our customers and the communities where we operate.
 - All new Metrobuses meet EPA Greenhouse Gas (GHG) emissions requirements: Phase 1 (2012-2016) and Phase 2 (2017-2025)
 - Metro purchases about 100 buses annually
 - More than 800 buses replaced since 2012 (over 50% of current Metrobus fleet)

Zero-Emission Bus Update

Earlier this year, Metro published a [Zero-Emission Bus Update](#) that outlines zero-emission fleet planning underway. The transition to zero-emission bus service will require significant regional investment and coordination.

Required actions for the region include:

Energy Infrastructure Investments	Policies & Rate Structures	Funding for Buses & Facility Conversion
<ul style="list-style-type: none">Identify, fund and build utility infrastructure required to operate service	<ul style="list-style-type: none">Establish regional policies and energy rate structures	<ul style="list-style-type: none">Increase funding to replace the existing fleet with cleaner buses



Building for the Future

- Results of the zero-emission bus test and evaluation will allow Metro to identify technologies for adoption pending funding availability.
- The Northern Bus Garage project incorporates design choices that will facilitate electric bus technology conversion, including:
 - Space to accommodate Switch Gear and Transformers
 - Plans for conduit to feed the future chargers
 - Adequate ceiling height to allow overhead electric bus charging

Electric Bus Test and Evaluation Timeline

- Phase 1: Electric Bus Summary Report – **COMPLETED**
 - Research to inform test and evaluation. Covering infrastructure, planning, electric bus fleet and estimated financial costs and requirements.
- Phase 2: Electric Bus Test and Evaluation – **IN PROGRESS**
Planned for Shepherd Parkway Bus Garage
 - Vehicle and Infrastructure design: Fall 2020 – Spring 2021
 - Procurement Process: Spring 2021 – Fall 2021
 - Bus build and infrastructure upgrades: Fall 2021 – Fall 2022
 - Performance evaluation: Fall 2022 – Winter 2023
- Phase 3: Further investment in electric bus technology is highly dependent on test/evaluation results, progress on regional policies, grid infrastructure investments, and funding availability ([see Appendix for more details](#))

Question & Answer Period: Metrobus Fleet Update

- Please submit your questions through the meeting chat
- If the project team is unable to respond to your question during this meeting, you may contact us at MCAP_NBG_Reconstruction_Project@wmata.com
- Summary of the Q&A will be posted to: wmata.com/NorthernBusGarage

VII. Next Steps for Project

December 2020	January 2021	TBD	TBD
Present final revised design concept to Historic Preservation Review Board	Begin Mayor's Agent process on demolition permit	Execute a Memorandum of Agreement for Section 106 (Historic Preservation)	Submit Documented Categorical Exclusion to FTA for approval

- Updates posted to wmata.com/NorthernBusGarage and shared via email
- Email MCAP_NBG_Reconstruction_Project@wmata.com to join the project's community contact list or request additional information



Appendix

Appendix A: Planning & Design Phase Overview

Referenced Reports

Report Description	Released as of 11/9/2020	Report Link	Notes
Documented Categorical Exclusion Report	No	To Be Announced	Not completed; will be completed after HPRB and Mayor's Agent Approvals. Estimated: Late 2021
Zero-Emission Bus Update	Yes	https://www.wmata.com/initiatives/sustainability/upload/WMATA_Zero_Emission_Bus_Update-02122020-FINAL.pdf	
Site contamination report (bus garage footprint only)	No	To Be Announced	Will be released after DOEE completes its review

Appendix B: Air Emissions Minimization

Air Quality

Removing Exhaust Fumes Through Chemisorption

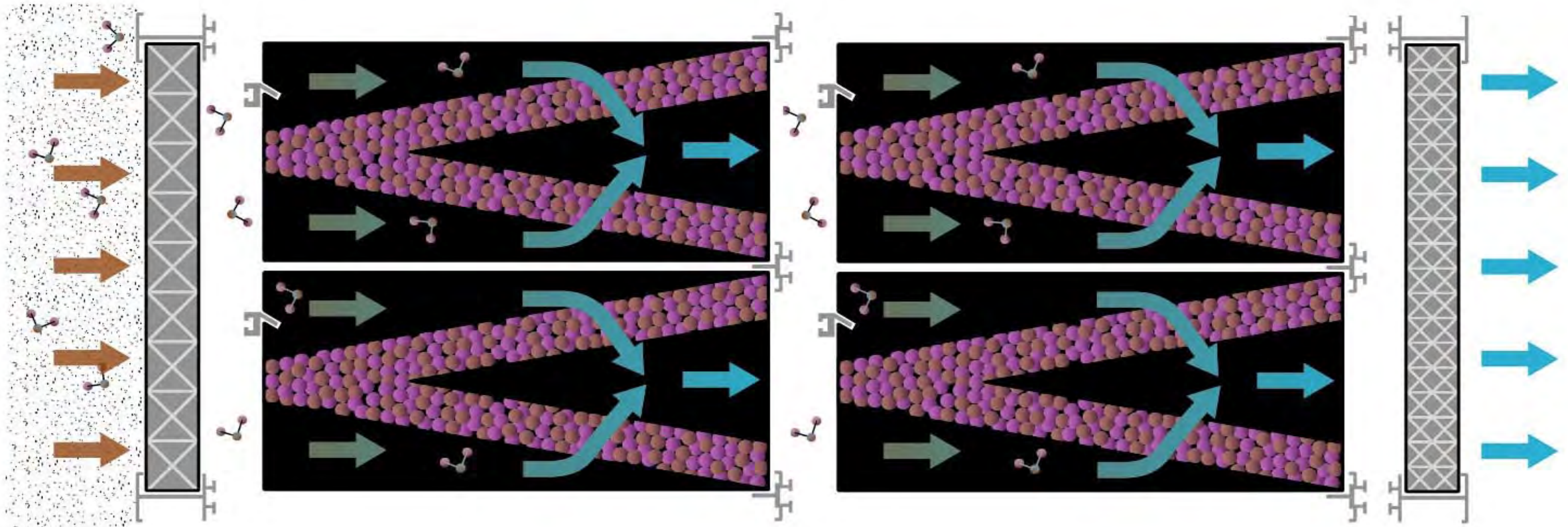


Capacity Test Results (typical) @ 99.5% Removal Efficiency		
Contaminant	Media Tested	Capacity, weight %
Aldehydes	Purafil Select	2.5
Hydrocarbons	Purakol	21.5
Nitric Oxide	Purafil Select	5.2
Nitrogen Dioxide	Purakol	6.6
Organic Acids	Purakol	22.6
Sulfur Dioxide	Purafil Select	9.5



Air Quality

Dual V-Banks in AHUs



Appendix C: Site Remediation

Site Remediation

- Groundwater and soil environmental investigation:
 - 54 soil borings and 10 temporary monitoring wells
 - water: PCB, BEHP, DRO, and chlorinated solvents and breakdown products
 - soil: PAHs, DRO, lead, arsenic, GRO, ethyl benzene
 - Results forwarded to DOEE; DOEE has asked follow-up questions
 - Project team anticipates remediation
 - During construction: soil removal and water treatment under a DOEE-approved remediation plan
 - After construction: water treatment

Site Remediation (continued)

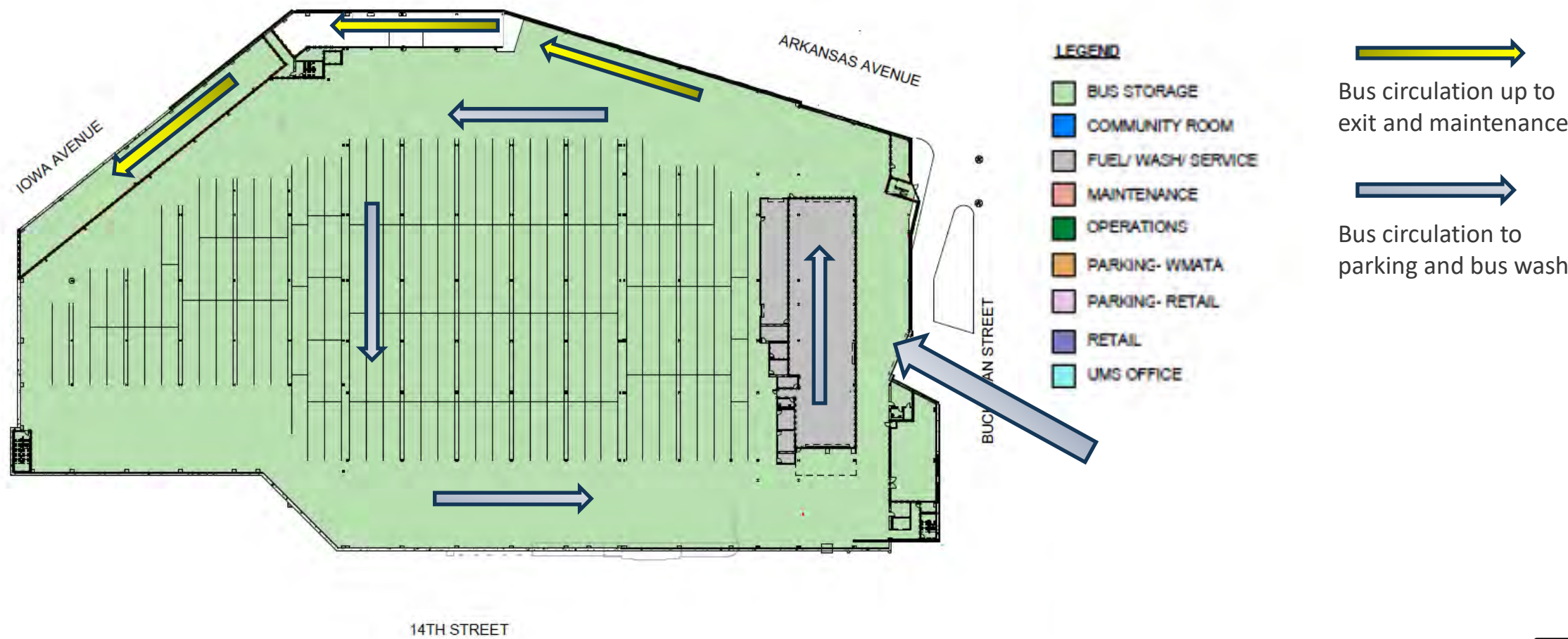
- Other remediation anticipated:
 - Lead paint: Found on some painted surfaces. All lead paints on retained (historic) surfaces will be removed. Contaminated debris will be separated and disposed.
 - Asbestos: Found in floor tile. Contaminated debris will be separated and disposed.
 - Most other asbestos materials have been abated.

Site Remediation (continued)

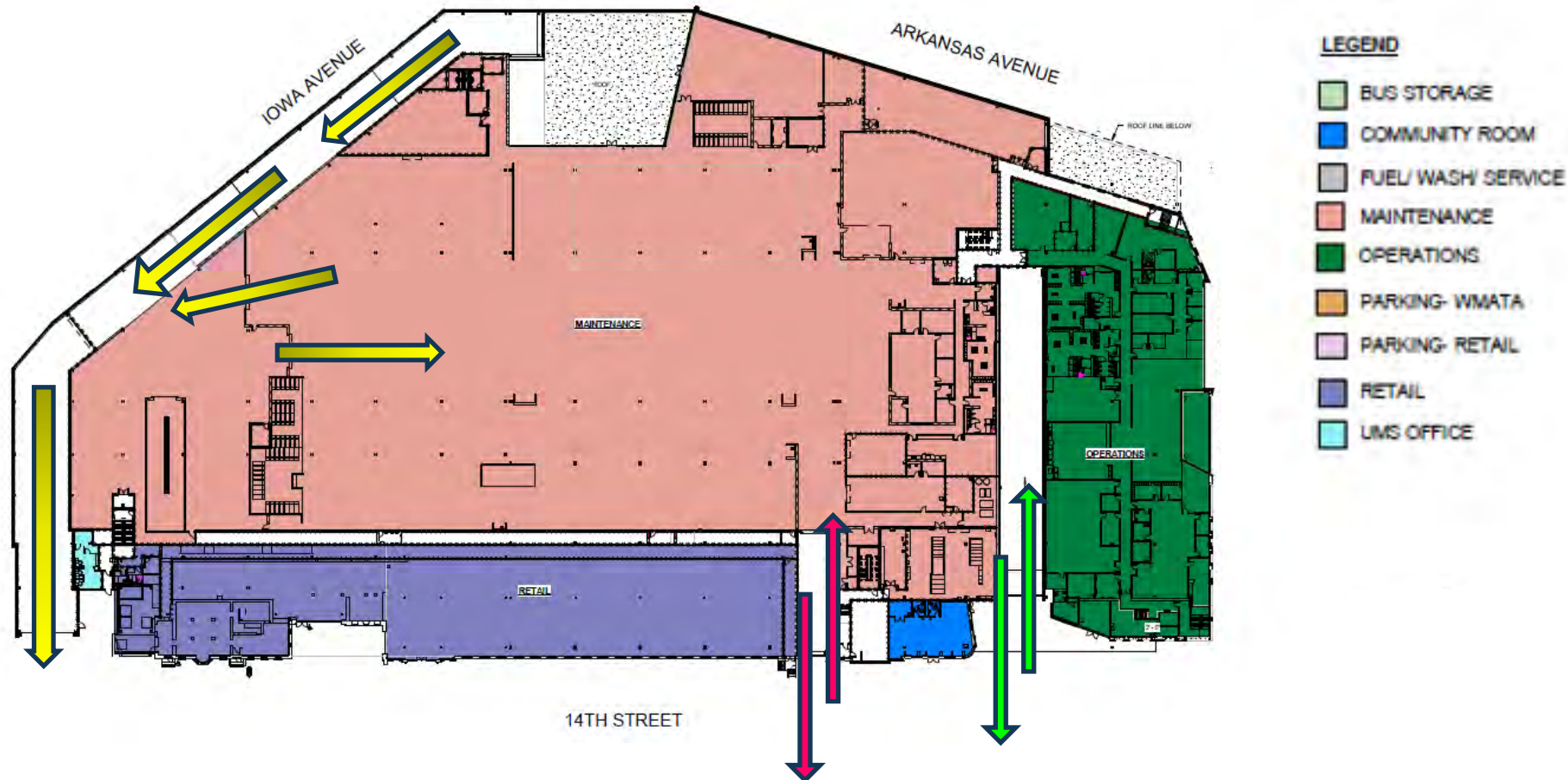
- Mercury: Found in fluorescent lights and thermostats. Contaminated material will be removed, separated, and disposed at licensed facilities.
- PCBs: Light ballasts (if identified). Material will be separated and disposed at licensed facilities.
- Existing underground storage tanks (7) will be removed under a DOEE-approved removal and remediation plan.
 - All fluids were removed from all existing underground and above ground storage tanks on the property after the building ceased operations in 2019.

Appendix D: Environmental Design

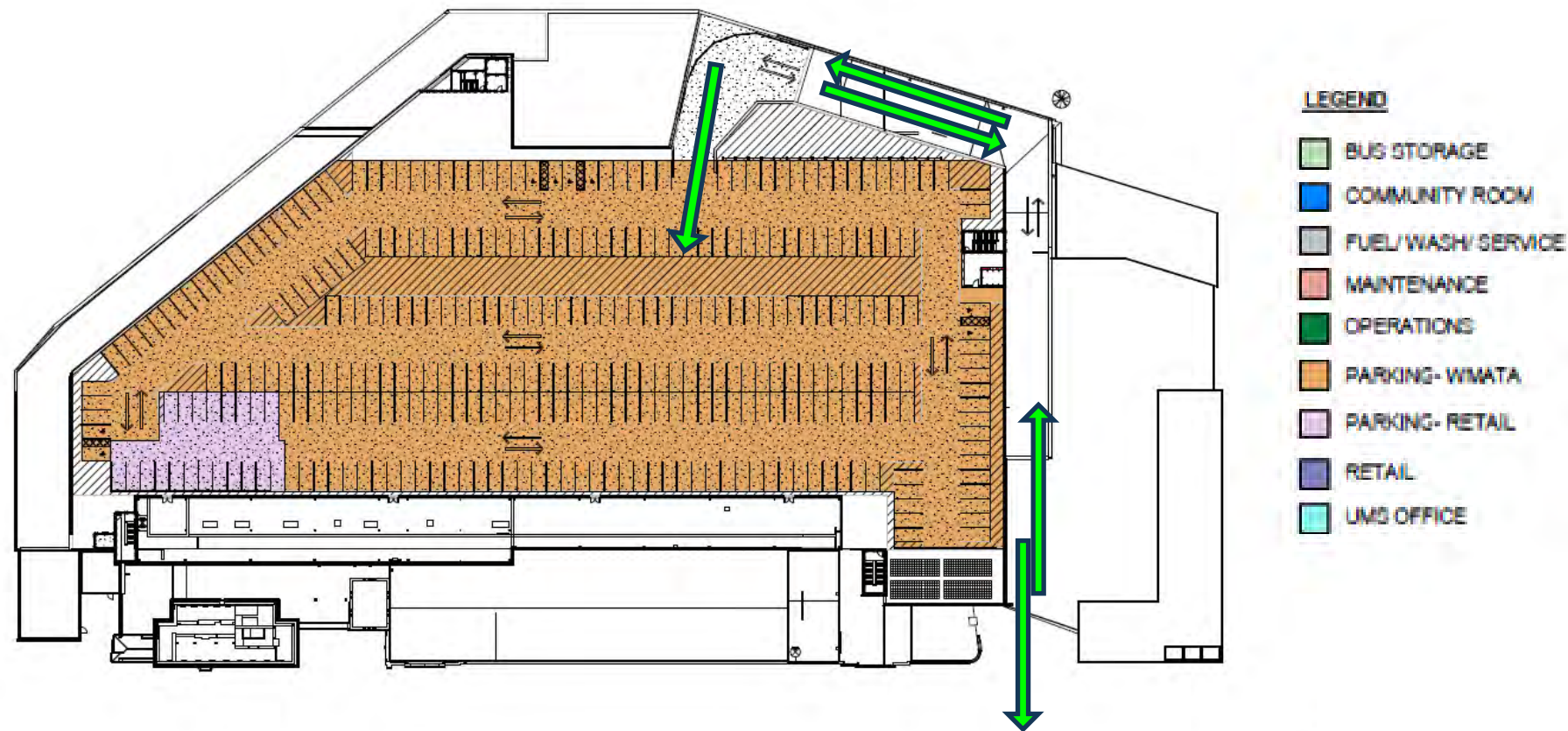
Internal Operations – Bus Storage Level



Internal Operations – Operations Level




Internal Operations – Employee Parking Level



LEED Accreditation









- Metro is pursuing LEED accreditation for the new Northern Bus Garage
- LEED Accreditation status as of November 2020 (pending final design)

		LEED v4 for BD+C: New Construction and Major Renovation		Project Checklist Scorecard 40% 201105		Project Name: Northern Bus Maintenance Facility		Certified: 40 to 49 points		Silver: 50 to 59 points		Gold: 60 to 79 points		Platinum: 80 to 110	
Y 7 N		1				Credit	Integrative Process	1							
15 1 0		Location and Transportation		16											
						Credit	LEED for Neighborhood Development Location	16							
						Credit	Sensitive Land Protection	1							
						Credit	High Priority Site	2							
						Credit	Surrounding Density and Diverse Uses	3							
						Credit	Access to Quality Transit	3							
						Credit	Bicycle Facilities	1							
						Credit	Reduced Parking Footprint	1							
						Credit	Green Vehicles	1							
7 1 2		Sustainable Sites		10											
						Prereq	Construction Activity Pollution Prevention	Required							
						Credit	Site Assessment	1							
						Credit	Site Development - Protect or Restore Habitat	2							
						Credit	Open Space	1							
						Credit	Rainwater Management	3							
						Credit	Heat Island Reduction	2							
						Credit	Light Pollution Reduction	1							
11 0 0		Water Efficiency		11											
						Prereq	Outdoor Water Use Reduction	Required							
						Prereq	Indoor Water Use Reduction	Required							
						Prereq	Building-Level Water Metering	Required							
						Credit	Outdoor Water Use Reduction - ACP	2							
						Credit	Indoor Water Use Reduction - ACP	6							
						Credit	Cooling Tower Water Use - ACP	2							
						Credit	Water Metering	1							
17 4 12		Energy and Atmosphere		33											
						Prereq	Fundamental Commissioning and Verification	Required							
						Prereq	Minimum Energy Performance	Required							
						Prereq	Building-Level Energy Metering	Required							
						Prereq	Fundamental Refrigerant Management	Required							
						Credit	Enhanced Commissioning	6							
						Credit	Optimize Energy Performance	18							
						Credit	Advanced Energy Modeling	1							
						Credit	Demand Response	2							
						Credit	Renewable Energy Production	3							
						Credit	Enhanced Refrigerant Management	1							
						Credit	Green Power and Carbon Offsets	2							
9 4 0		Materials and Resources		13											
						Prereq	Storage and Collection of Recyclables	Required							
						Prereq	Construction and Demolition Waste Management Planning	Required							
						Credit	Building Life-Cycle Impact Reduction	5							
						Credit	Building Product Disclosure and Optimization - Environmental Product Declarations	2							
						Credit	Building Product Disclosure and Optimization - Sourcing of Raw Materials	2							
						Credit	Building Product Disclosure and Optimization - Material Ingredients	2							
						Credit	Construction and Demolition Waste Management	2							
10 1 5		Indoor Environmental Quality		16											
						Prereq	Minimum Indoor Air Quality Performance	Required							
						Prereq	Environmental Tobacco Smoke Control	Required							
						Credit	Enhanced Indoor Air Quality Strategies	2							
						Credit	Low-Emitting Materials	3							
						Credit	Construction Indoor Air Quality Management Plan	1							
						Credit	Indoor Air Quality Assessment	2							
						Credit	Thermal Comfort	1							
						Credit	Interior Lighting	2							
						Credit	Daylight	3							
						Credit	Quality Views	1							
						Credit	Acoustic Performance	1							
5 1 0		Innovation		6											
						Credit	Innovation	5							
						Credit	LEED Accredited Professional	1							
3 1 0		Regional Priority		4											
						Credit	Regional Priority: § LT- Reduced Parking Footprint	1							
						Credit	Regional Priority: § Green vehicles	1							
						Credit	Regional Priority: § Rainwater Management	1							
						Credit	Regional Priority: § Access to Quality Transit	1							
78 13 19		TOTALS		Possible Points: 110											

Appendix E: Metrobus Fleet Update

Zero-Emission Bus Update

Building upon the efforts of Metro’s first-ever Energy Action Plan, released in 2019, and the Washington Area Bus Transformation Project, Metro is engaging in zero-emission fleet planning to enable a clean and sustainable region, control operating costs and improve the customer experience.

BENEFITS	CHALLENGES
 Cleaner air, reduced greenhouse gas and tailpipe emissions	 Additional capital investment in grid infrastructure, facilities, and vehicles
 Quieter vehicles, less vibration, increased comfort	 Major fleet and facility investments with rapidly maturing technology
 Decreased use of fossil fuels, reduced fuel costs	 Fleet lifecycle/replacement timing
 Reduced operation and maintenance costs	 Coordination/partnership



Zero-Emission Bus Update

This document lays out the opportunities that zero-emission bus transportation offers the region, reviews actions Metro has already initiated and considers the market, infrastructure and policy prerequisites for success.

The document is available on the Metro website here:

https://www.wmata.com/initiatives/sustainability/upload/WMATA_Zero_Emission_Bus_Update-02122020-FINAL.pdf

Additional Requirements for Zero-Emission Buses at NBG

- Purchase of electric buses
 - Additional incremental cost per bus (compared with conventional buses)
 - New bus purchases are distributed across the region to balance average fleet age
 - Bus procurement, build and commissioning work
- Additional facility investments
 - New utility connection from grid, switch gear and transformers
 - Bus chargers
 - Fleet charging management system
- Route redesign and investment in on-route charging as required
- Additional external conditions:
 - Electric grid investment to ensure adequate power supply to garage
 - Secure favorable electric vehicle charging rate class from Public Utility Commission

Northern Bus Garage Replacement Community Engagement Meeting 4 – Tuesday, November 17 6:00PM – 8:00 PM Meeting Summary

1. Overview

The Washington Metropolitan Area Transit Authority (WMATA) conducted a virtual meeting (Meeting 4) to present the new exterior design concept that was developed based on community input gathered over previous meetings and the design survey results. Three previous meetings were conducted. Meeting 1 was held to present the updated project design and to initiate a community design survey. Meeting 2 reviewed historic preservation components of the design, obtained community and Section 106 Consulting Parties feedback on such, and presented design survey results. Meeting 3 focused on environmental issues.

Following Meeting 4, the new exterior design concept will be presented to the Historic Preservation Review Board (HPRB). If all approvals are obtained in 2021, demolition and construction can begin in 2022 and the project could be complete by 2026.

The meeting presentation was conducted in two segments with a questions and answers session conducted after each segment's presentation. There were no questions asked following the first presentation.

2. Review of Survey Results and Community Feedback

Presentation

There were 305 responses to the survey and the majority of responses favored Option 3. It was also clear that public art was desired by respondents. As a result, Option 3 was used as the basis for further design changes to develop the new exterior design concept presented.

The project team reviewed the changes made as a result of community feedback received to date, including:

- Removal of metal panels to use high performance masonry panels instead.
- Addition of more windows on 14th Street and Iowa/Arkansas Avenues.
- Increased height of bus exit on 14th Street and changed material to brick with greater brick detailing.
- Expanded width of walkway along Decatur Street and increased lighting.
- Ensured strong Art in Transit components, though exact form will depend on further development with an artist.

Questions and Answers

None.

3. Design Review

Presentation

This portion of the meeting reviewed the new exterior design concept in detail, beginning with a level by level discussion and concluding with updated rendering views.

The height of the building has been greatly reduced overall and does not dominate the historic façade. It also fits in better with the heights of surrounding buildings. Entrances and exits for pedestrians will be accessible and a sidewalk has been added along Iowa Avenue.

The first floor remains bus storage and bus wash with a ramp along the Iowa Avenue wall. This wall will be reconstructed to be effective than the existing wall in terms of noise reduction.

On the second floor, a mix of uses will include retail, bus storage, and WMATA operations offices. Sound buffering is built in between retail and garage portion of the building.

The parking level provides more than the required number of spaces for retail employees per the DC code and the remaining spaces are provided for WMATA employees to eliminate the neighborhood concern of employees parking in the neighborhood.

The roof will have plantings both in trays and in soil; smaller plants are located in trays while larger are located in soil where possible. Photovoltaic panels are also located here and will have synergistic effects with the green roof because plants will help cool panels and maintain efficiency of electric production.

Rendering views show metal panels have been removed. In their place, a high-performance concrete masonry panel will be used. These outperform brick in many conditions and will not have a sheen or metallic look. Color variation, previously high with the metal panels, has been toned down though some natural variation will be present in the masonry panels. However, this variation is similar to what occurs in brick.

The bus entrance now has a raised roofline and exterior material is brick instead of red metal panels. This helps it relate better to the historic structure.

The brick wall at the corner of Iowa and Arkansas Avenues has been lowered by a few feet and a sidewalk will be added along Iowa Avenue where none exists today.

Rooftop mechanical units will be completely enclosed by building walls on the west side to reduce noise pollution. On the east side, units will not be internal, but will be located behind a brick screen which will reduce noise. All noise codes will be met or exceeded.

Questions and Answers

Q: Are all retail entrances at grade (in terms of accessibility)?

A: There are a total of 12 pedestrian entrances to the Bus facility along 14th Street, including five as retail entrances, four for WMATA, two for the community room and one entrance for Uptown Main Street (UMS). All entrances are at grade with the exception of the two historic administration building entrances which have an ADA compliant ramp and a stair and the southernmost retail entry/exit which will have a stair because of the grade change.

Q: Are the retail entrances external (street/sidewalk) or internal (go inside shops or restaurants to enter)?

A: Sidewalks on 14th Street lead to entrances to the retail space. Because the retail use is unknown at this time, determination about what the entrances will lead to (whether directly into the retailer or into an

interior corridor) will be made once planned retail use is advanced. It is not anticipated that any negotiations with an occupant will occur until about a year before the garage completion.

Q: Is Uptown Main Street paying rent for their space? If yes, is WMATA giving them a special rate or a break because they are a local community organization?

A: WMATA and Uptown Main Street have not engaged in any lease negotiations yet. Having said that, we are willing to work with them on a rate that they can afford as a local community organization.

Q: Where in the US is there retail in a diesel bus garage? Have you done any studies on the feasibility of this? What do we as a community gain from this renovation?

A: The retail is not in the garage, but is located on the 14th Street frontage of the garage and separated by a service corridor from the interior of the bus garage. Our retail consultant, Streetsense, sees no conflict. Retailers will make their decision about whether or not to locate here based on the customer market, functionality of the space, and the lease terms.

Q: How is WMATA not able to predict retail uses 5-6 years from now? Isn't that what economic development studies/assessments do? How is it not possible in 2020 to provide these kinds of projections?

A: Retail, office or residential uses cannot be predicted that far in advance. Real estate leasing is not an exact science. Retail tenants, in particular, are difficult to predict and do not typically make commitments to leasing more than one year in advance.

Q: To clarify, are there 20 spaces for the employees of the retail plus 20 spaces for customers of the retail (in addition to parking for WMATA employees)? There's concern about how successful retail will be if there's no parking access.

A: The current design includes 20 parking spaces for retail employees. This amount of parking is consistent with the small retailers (grocer, cafe, etc.) that the site can accommodate. Our analysis of the street parking shows that there are plenty of metered parking spaces on both sides of 14th Street. Pre-pandemic, their occupancy typically was 30%.

Metro will discuss with DDOT any additional measures that can be taken to avoid retail parking on residential streets. Programs such as the Safe Streets pilot program or increased residential permit parking program use may also minimize impacts to the neighborhood. There is also multimodal transportation (bus, walking, bicycle) options from the neighborhood that may decrease parking demand.

In addition, the required security at the facility further constrains Metro's ability to offer surface parking. Buses are used for emergency events, so they have to be locked down and secured like any other major public building. Retail employees will go through security checks just to get on site. Allowing public parking onsite introduces an unrecommended additional risk. These security requirements are further described in FTA Circular C 5800.1 Safety and Security Management for Major Capital Projects.

Q: What is the total number of parking space for WMATA employees? Could that be reduced and their staff be encouraged to take transit to provide some parking for retail customers for both sides of 14th Street?

A: There are 326 spaces total parking spaces onsite. WMATA anticipates that approximately 300 of these spaces will be reserved for Metro employees to cover the peak needs around shift changes and avoid

parking on the surrounding neighborhood streets. These spots will be utilized by bus operators who need to get to the facility very early, when transit does not run, and also by operators who work the last shift change and bring the buses back to the garage at the end of the day, when there is no transit to get home.

Q: The bike lane adjacent to loading zones on 14th Street typically gets blocked by delivery trucks and parked cars. Are there any other options?

A: Metro intends to provide a loading zone to prevent blocking of the bike lane, though options are limited. Metro does not want double parking on the street. Trucks/deliveries will not be able to back up to the loading zone since it is not allowed by DDOT. The trash would get rolled out to the street, or deliveries would be wheeled into the delivery area. The proposed delivery location is currently used for vehicles backing into the existing entrance, but Metro is eliminating backing movement in the proposed design. The reason the curb remains in this area is to make it easier for a hand truck or the like to be pushed into a loading zone.

Q: Can we confirm that retail parking will not spill into the residential streets by placing concrete barriers to block outside traffic from entering the residential streets? They have done this around the Chevy Chase Pavilion in Friendship Heights.

A: We will bring that concern to our conversations with DDOT staff. In addition to the possibility of physical barriers, there are other programs that may be considered such as the Safe Streets pilot program or increased residential permit parking program use to mitigate the impacts to the neighborhood. The type of retail will determine the parking demand. There is also multimodal transportation (bus, walking, bicycle) options from the neighborhood that may decrease the parking demand.

Q: What number of parking spaces will have EV charging capabilities?

A: There are currently 10 EV charging spots for automobiles, but WMATA is evaluating additional vehicle charging capabilities to cover up to 20% (or 60) of the total parking spaces.

Q: How is parking thought through with regards to current and future retailers? What are some of the considerations that will part of this multi-year process determining how retail fits and how the design works?

A: The project is in a planning phase. While we expect to provide parking for retail employees on-site, customer parking will be on-street. Details of the management of customer parking have not been worked through yet. Given that leasing commitments by retailers do not occur until a year or two in advance of opening, the retail space is designed to be flexible to accommodate various potential combinations of retailers. This is very typical in retail development. Since the completion of construction of the new garage appears to be five or six years off, the flexible design approach (i.e. planning for how tenants and customers will access the retail spaces and how utilities will be provided) is how we can adjust to any number of retailers that may be interested in the future.

Q: How will WMATA protect pedestrians from getting hit by an exiting bus and fast closing exit doors, especially by 14th Street? Will there be a WMATA employee at the exit at all hours when the retail businesses are open? It looks like there will be little advance notice to pedestrians when a bus is exiting. I have concerns that there's going to be a pedestrian accident there.

A: Safety is extremely important to WMATA. We are looking at many different measures to ensure safe pedestrian movements around the reconstructed Northern Bus Garage. Design is ongoing, and all final measures will be reviewed and approved by DDOT. There is a traffic signal at the bus exit at Decatur St, and there is currently a pedestrian walk signal, which will be retained. We anticipate replacing the existing signal equipment with a new, upgraded signal which would most likely include countdown pedestrian signal heads. The exiting buses would be controlled by the signal, and therefore the pedestrians would know when it is safe to cross by following the signal control.

Entrances and exits for other ramps along 14th Street will be controlled by an electronic gate system that is common in all Metro facilities. Typically, the gate can only be engaged with a key code or swipe card before you can enter or depart the facility.

Q: What elements of this design are actually going to improve public safety and the neighborhood?

A: One of the most important security considerations is lighting, making it a safe area so that there is visibility. Another measure that came up during previous community meetings, and reflected in the current design, is additional windows for increased visibility onto the surrounding streets ("eyes on the street"). We will have security personnel (MTPD officers) and guard service at the main entrance and parking deck entry 24/7 for the facility, and the facility will have numerous CCTV cameras around the perimeter to help monitor the area. One of the latest measures that WMATA is working on in coordination with DDOT is widened sidewalk along Decatur St to provide for a well-lit, wide shared use path and improvement circulation around the reconstructed NBG.

Q: WMATA left this facility in June 2018 and by their estimations will return sometime in 2025. Why not stay away as long as it takes to come back all electric?

A: Metro ceased bus operations at this facility in Summer 2019. It is essential to resume service from the Northern Bus Garage site as soon as possible in order to provide the efficient and reliable service of the routes served by this facility. Meanwhile, the bus garage will be built for the future, incorporating design choices that facilitate future electric bus technology conversion.

Q: What types and how many vehicles will be going in and out of the administrative side of the building belonging to MTP?

A: There will only be automobile traffic in this area, not buses. The automobiles will be entering and exiting the garage, driven primarily by our bus operators, maintenance, and operations staff. There will be several hundred vehicle movements each day.

Q: What route will diesel buses use arriving to and departing from the garage? The path from 14th Street to Arkansas Avenue goes past Upshur Recreation Center, a playground, baseball field, and swimming pool. Three schools are close by as well. Diesel buses will ride through the residential area, then make a tight left turn on Buchanan Street past People's Congregational Church UCC and finally enter directly across from DSK Mariam Church. You are impacting thousands of women, children, adults, and seniors. How do you account for that?

A: The buses operating out of Northern Division will follow the same routes that were active prior to NBG's closure. However, it is worth noting that buses are currently restricted from operating on Arkansas Avenue. The reconstruction of the bus garage is separate from Metro's Bus Network Design, which is a separate process with public notification and engagement opportunities around specific routing.

Q: Could you provide a little background on what laws or regulations require the level of security that you are describing?

A: The building is being secured based on best practices for an essential facility. These security requirements are further described in FTA Circular C 5800.1 Safety and Security Management for Major Capital Projects.

Q: In addition to the horizontal green roof cover, can vegetated walls/trellis systems be installed around the mechanical penthouse on the roof? Vertical vegetative systems?

A: WMATA appreciates this suggestion and will consider opportunities to add more vegetated roofing around the mechanical units. In previous design concepts for Northern Bus Garage, we had shown some vertical vegetative panels incorporated in the facades. The HPRB and community did not respond positively to the vegetative panels, so we removed them in the revised design. Based on the latest exterior design supported by the community, green walls would not be included.

Q: Could some of the green roof elements be incorporated into green walls instead to get retail customer parking on the roof for both sides of 14th Street?

A: One of the comments we received from the Community and HPRB on the original 60% design was that the building was too high and out of scale with the surrounding neighborhood. We went back and reduced the height, including the area on the car parking level to provide a more appropriate massing along the street edge. It is not feasible to reintroduce parking along the edges without also increasing the height of the building. The remaining roofs that do not contain parking have photovoltaics or a green roof, which do not require the roof height to be raised. Also, as noted previously, based on FTA security guidelines, we cannot bring unscreened retail customers into the building.

Q: What were the specific objections to the vertical vegetation systems? They could be good way to break up the imposing walls.

A: The vertical green walls came up during the HPRB initial meeting. The HPRB Board didn't feel the green wall concept fit into the overall facility redesign and they did not understand the purpose of it. The team did not work to include green wall elements into the new design and we do not believe they would fit well within the current aesthetics.

Q: There is a concern about brick height along Arkansas Avenue where homes will have to face the towering structure.

A: We have lowered the roof in every location we can, but the mid-block area along Arkansas Avenue is where the car ramp goes up to the roof. We tried to add some wall panels along the ramp and add transparency where possible, but we cannot lower the car ramp. The design team further reviewed the design of the walls along the car ramp. The southernmost portions of the ramp walls were able to be either lowered by 8 feet uniformly or also sloped to follow the car ramp as a parapet further reducing the visible wall area. These design refinements provide a less significant height difference between the southeastern brick wall and car ramp's red paneled wall, which was understood to be the community member's primary concern. This change has been updated in the elevations and rendering view 6 and will be presented to the HPRB at the December 17th hearing.

Q: Is the wall section on Arkansas Avenue taller than the existing building, and if so, by how much?

A: It varies. The new section in the southeast corner of the site is similar to the existing building height. The section through the brick screen wall at the north end of Arkansas is approximately 10 to 15 feet higher than the existing building. As discussed previously, the car ramp walls are taller because of the programmatic requirements for the project.

Q: Has WMATA done shadow studies relating to impacts to neighboring homes during different seasons?

A: The design team ran a shadow study for the site. Because of the large setback of the new facility along Arkansas Avenue and Iowa Avenue, the building has a minimal impact on the neighboring homes in terms of shading. The neighboring properties do not fall within the facility's shadow until the sun begins to set, which is like the situation that exists today. This ranges from around 3pm on the winter solstice to 7pm on the summer solstice. The project has been designed to comply with all zoning restrictions for building height.

Q: Will the facility be an end point for bus routes similar to Friendship Heights?

A: Friendship Heights is a regional transit center and bus station serving Metrobus, Ride On and various shuttles. Northern Bus garage is not intended to serve as a bus station for multiple operators. The historic bus loop on 14th Street NW at Colorado Avenue is designed to serve that purpose. Some Metrobus routes may begin or end at the garage (as has been done over its 100-year history) but it is not intended or designed to be a Regional Bus Station.

Q: How many buses are going to be housed in the garage? What types of exhausts will be released? What are the impacts on air quality within 5 blocks from the garage?

A: Roughly 150 buses are planned to be stored in the facility and operate out of it. The building is designed to be negatively pressurized so that air does not escape without first being filtered. All the inside air will go through scrubbers to remove impurities before it is released out of the building. Buildings like this have to go through several air changes per hour to be safe for the occupants, which is why it goes through a scrubber system. Please see the Q&A from Community Meeting #3 on this topic.

Q: Assuming there will be some number of years between the bus garage project completion and electrification of DC's bus fleet, what impact will continued use of diesel buses have on the community? In regard to community members' health? In regard to environmental impact? When will WMATA be able to answer these questions of environmental health impacts without completing an EIS or EA? It seems like they cannot be answered without one. We will not be able to effectively feel like the community will be safe. It feels backwards, having a diesel bus barn 5-6 years from now. Why are you not willing to budge on moving forward with an electric fleet?

A: We conducted a briefing in community meeting #3 that addressed many of your questions and refer the community member to information that has been posted regarding these concerns. The level of environmental review is determined by the Federal Transit Administration (FTA), and the review process is FTA-sanctioned. FTA has told us that the probable class of action determination is a documented categorical exclusion.

On Thursday November 19, 2020, the WMATA Board of Directors considered information on powering of bus fleets (electric vs. diesel) during a presentation entitled "Framework for Transit Equity: Sustainability Principles." The presentation begins at the 1 hour, 20 minute mark in this video: https://www.youtube.com/watch?v=rdULb2aK_CQ.

Electric fleets require technology to operate and substantial electrical infrastructure (capable of providing a significant amount of electricity for recharging). The required electrical infrastructure is currently not in place. This is something that is beyond WMATA's control. We will continue working with PEPCO to coordinate how they build out the infrastructure necessary to recharge the buses at depots. In addition, we need to design our bus routes so that electric buses can complete a full route on a single charge. Our current planning efforts are designed to add electric buses to the fleet as efficiently as possible once the infrastructure and technology requirements are satisfied. We look forward to continuing this dialogue with the community.

Q: There was discussion of setting a baseline for the area with regard to particulate matter.

A: WMATA does not set baselines for particulate matter. Metropolitan Washington Council of Governments reviews regional data for conformity with Clean Air Act program requirements. As a recipient of Federal Funds, WMATA has to ensure the project complies with the Clean Air Act requirements.

Q: With the scrubbers that you have, will they pick out PM1? PM1 particles are very tiny and quite dangerous for human health because it can get into your bloodstream. I do not see that you are using activated carbon filters.

A: Response to this question was also provided as part of the Q&A from our Community Meeting #3. A summary of the response is below:

Although there is no regulatory requirement, the dry scrubber system is designed to remove approximately 75% of PM1 particles. There are two major standards available in the market describing the efficiency of the air filters, MERV/ASHRAE 52.2 and ISO 16890.

- MERV system mostly focuses on the percentage of particles captured at specific particle size ranges – refer to the table provided in the Q&A responses from Community Meeting #3.
- The second standard is the ISO 16890 which focuses more on the particle size distribution of Particulate Matter (PM). The ISO 16890 testing method is broken down into four different categories:
 - ePM1 (the smallest and most harmful particles)
 - ePM2.5 (used mostly by the WHO and EPA)
 - ePM10 (also used by the WHO and EPA)
 - ePM-Coarse (for very light-duty or pre-filtration applications) ASHRAE has developed the table below to capture the comparison between MERV system and ISO 16890 (which referenced to PM):

Approximate Equivalent Ratings for Filters Tested Under ASHRAE Standard 52.2 (MERV) and ISO 16890	
ASHRAE MERV* (Standard 52.2)	ISO 16890 Rating
1-6	ISO Coarse
7-8	ISO Coarse >95%
9-10	ePM ₁₀
11-12	ePM _{2.5}
13-16	ePM ₁

As seen from the table, the MERV 14 filters will capture approximately 75% of the PM 1 particles.

Q: The issue is not about smelling fumes. There is plenty we cannot smell that can still impact our health.

A: Please refer to the Q&As for Meeting #3 for information about air treatment.

Q: If technology is the problem, why isn't WMATA considering trolleybuses?

A: Trolleybuses, or Trackless Trolleys, have been around for 100 years and are proven technology, unlike battery-electric buses. Metro currently has no plans for implementing trolley buses because Trackless Trolleys operate on catenary wires, which are very costly to install and maintain. Further, Trackless Trolleys are dedicated to a specific route, which would not work in the WMATA environment. When detours occur, the Trackless Trolley operate an EPU (Emergency Power Unit), which is a Cummins engine. Therefore, you are not getting away from the diesel engine. The average cost of a Trackless Trolley is roughly the same as an electric bus.

Q: If you plan to be all electric from the start you would not have to plan for scrubbers. Would that help cover the cost of going electric off the bat?

A: Regardless of the bus technology in place we still need to maintain some quantity of AQ "scrubbers" to meet life safety codes and design criteria for minimum air changes per hour for maintaining a healthy workspace for the building occupants. There are many operations within the space beyond the exhaust emissions that need to be managed. The savings overall on reduced scrubber requirements for an all-electrical fleet would only cover a small fraction of the overall investment required to fully electrify the facility in particular when you look at the offsite grid investment needed to serve the charging demand for the buses.

Q: How and when will the community have input into art projects incorporated into the final design?

A: We covered Art in Transit public participation in Community Meeting #2. We will consider public interest and public participation in our Art in Transit program once we know what the final facility will look like.

Q: When will WMATA present revised concepts to HPRB? Can the public speak or are they just witnesses?

A: The HPRB public hearing is scheduled for Thursday, December 17th. Details about the hearing have been posted in the bus garage vicinity. Our government relations team will also distribute information to the ANC leaders ahead of the hearing. A link is available on the notices that will bring you to the HPRB website where questions or testimony can be submitted to HPRB, and one can register for an opportunity to speak at the hearing.

Q: What will future dialogue look like?

A: Moving forward, this is not the end of our community engagement. We are committed to providing updates quarterly and when additional information is available. We will send out updates when appropriate through our email listserv. To sign up for the listserv you can email: MCAP_NBG_Reconstruction_Project@wmata.com. We will add you to our email listserv so that you receive future updates and notices about meetings and issues related to the project.

4. Next Steps

The project team will present the new exterior design concept to the HPRB on December 17. The community is encouraged to participate in this meeting. There may be additional comments from HPRB that result in changes to the design concept presented at this meeting, but the community will be informed. Following this, the design will be presented to the Mayor's Agent in January if all goes as planned. If the Mayor's Agent issues the needed demolition permit, a Section 106 memorandum of understanding will be signed with FTA and the State Historic Preservation Office. Following this, the documented categorical exclusion work will be packaged and submitted for approval by FTA. The website <https://www.wmata.com/initiatives/plans/northern-bus-garage/> will be updated throughout.

5. Comments

It is believed that the above represents an accurate description of the major events that transpired at this meeting. Your notification of any errors or omissions within five (5) working days of receiving these minutes is important, as the foregoing is intended to be part of the record and is the basis upon which WMATA will proceed.

Respectfully Submitted,

A handwritten signature in blue ink, appearing to read "Brian McMahon", is positioned above the printed name.

Brian McMahon

HNTB Project Manager

Northern Bus Garage Reconstruction Project

VIRTUAL COMMUNITY MEETING #4:
FINAL DESIGN PRESENTATION

11/17/2020



Agenda

- I. Project Team Introductions
- II. Community Input Process
 - I. Community Input Process
 - II. Survey Results and SHPO Process
- III. Exterior Design Changes
 - I. Option 3 Design Changes Based on Feedback
- IV. Exterior Design Review
 - I. Floor Plans
 - II. Perspectives
- V. Next Steps



I. Project Team

Diana Levy
Director, Capital
Delivery
(WMATA)

Ann Chisholm
Government
Relations
(WMATA)

Gail Ribas
Senior Director
Communications
(WMATA)

Jim Ashe
Environmental
Coordinator
(WMATA)

David Wehe
Project Manager
(WMATA rep)

Donzell Robinson
Communications
Consultant
(JSA)

John Munson
Project Executive
(CLARK)

Sean Beachy
Senior Architect
(CLARK/WENDEL)

Emily Savoca
Architect
(CLARK/WENDEL)

II. Community Input Process

Meeting #1: Project Design Update

- Introduced three exterior design options; launched public survey
- Meeting presentation, video and Q&A posted online at wmata.com/NorthernBusGarage

Meeting #2: Draft Design Conversation

- Meeting served two purposes:
 - Requested public comment on exterior design options
 - Requested invited Section 106 Consulting Parties to comment on historic properties
- Final survey results, meeting presentation and video posted online (Q&A will be posted this week)

Meeting #4: Final Design Presentation

- Presenting new exterior design concept based on community input
- Following meeting, new concept scheduled to be presented at Historic Preservation Review Board (HPRB) meeting in December



The poster is titled "Northern Bus Garage Replacement" and features a photograph of the historic building. It lists four virtual community engagement meetings, each with a green "COMPLETED" stamp. Meeting #1 (October 13) was the Project Design Update. Meeting #2 (November 2) was the Draft Design Conversation. Meeting #3 (November 10) was the Environmental Conversation. Meeting #4 (November 17) was the Final Design Presentation. All meetings began at 6 pm. For more information, the poster directs visitors to wmata.com/NorthernBusGarage. A small "M metro" logo is in the bottom right corner. A disclaimer at the bottom states that participation is selected without regard to race, color, national origin, age, gender, religion, disability, or family status, and provides instructions for requesting special accommodations under the Americans with Disabilities Act (ADA).

Northern Bus Garage Replacement

VIRTUAL COMMUNITY ENGAGEMENT MEETINGS

MEETING #1 Tuesday, October 13
Project Design Update **COMPLETED**

MEETING #2 Monday, November 2
Draft Design Conversation **COMPLETED**

MEETING #3 Tuesday, November 10
Environmental Conversation **COMPLETED**

MEETING #4 Tuesday, November 17
Final Design Presentation

All meetings begin at 6 pm.
For more information, visit wmata.com/NorthernBusGarage.

Public participation is selected without regard to race, color, national origin, age, gender, religion, disability, or family status. To request special accommodations under the Americans with Disabilities Act (ADA), or other language interpretation services, then if urgent, contact JSA LLC at 202-610-1006 or send a message to info@jbsa.com at least 48 hours prior to the meeting date, so necessary arrangements can be made.

M metro

Exterior Design Survey

- Findings based on 305 responses received from October 13-November 2
- Survey responses indicate Option 3 is the most preferred design option
- High preference for options with public art murals
 - Notably, 4 in 5 community residents are in favor of incorporating public art (e.g., wall murals) into the exterior design of the new Northern Bus Garage. The open-ended comments indicate not only support but strong enthusiasm for the idea.
- View that includes the historical façade chosen as most impactful to overall design assessment
- Final survey results (including summary of open-ended comments) available at wmata.com/NorthernBusGarage

Design Survey Preference for View 1 – Corner of Buchanan St NW and 14th St NW



wendel

PREVIOUS DESIGN – VIEW 1

CLARK

STV 100 Years



15%

wendel

OPTION 1 - VIEW 1

CLARK

STV 100 Years



4%

wendel

OPTION 2 - VIEW 1

CLARK

STV 100 Years



81%

wendel

OPTION 3 - VIEW 1

CLARK

STV 100 Years

III. Key Changes Based on Community & SHPO Feedback

- Incorporated High Performance Masonry Panel
- Additional Windows on 14th Street
- Additional Windows on Iowa/Arkansas
- Additional Brick Detailing
- Reduce Height Along Iowa
- Altered Bus Exit on 14th Street
- Incorporated Art In Transit
- Wider Walkway on Decatur Cut Through with Enhanced Lighting

Question & Answer Period:

- Seeking questions and comments about the survey and key changes
- Please submit your questions through the meeting chat
- If the project team is unable to respond to your question during this meeting, you may contact us at MCAP_NBG_Reconstruction_Project@wmata.com
- Summary of the Q&A will be posted to: wmata.com/NorthernBusGarage

IV. Design Review

SOUTHWEST VIEW LOOKING NORTHEAST ALONG 14TH STREET

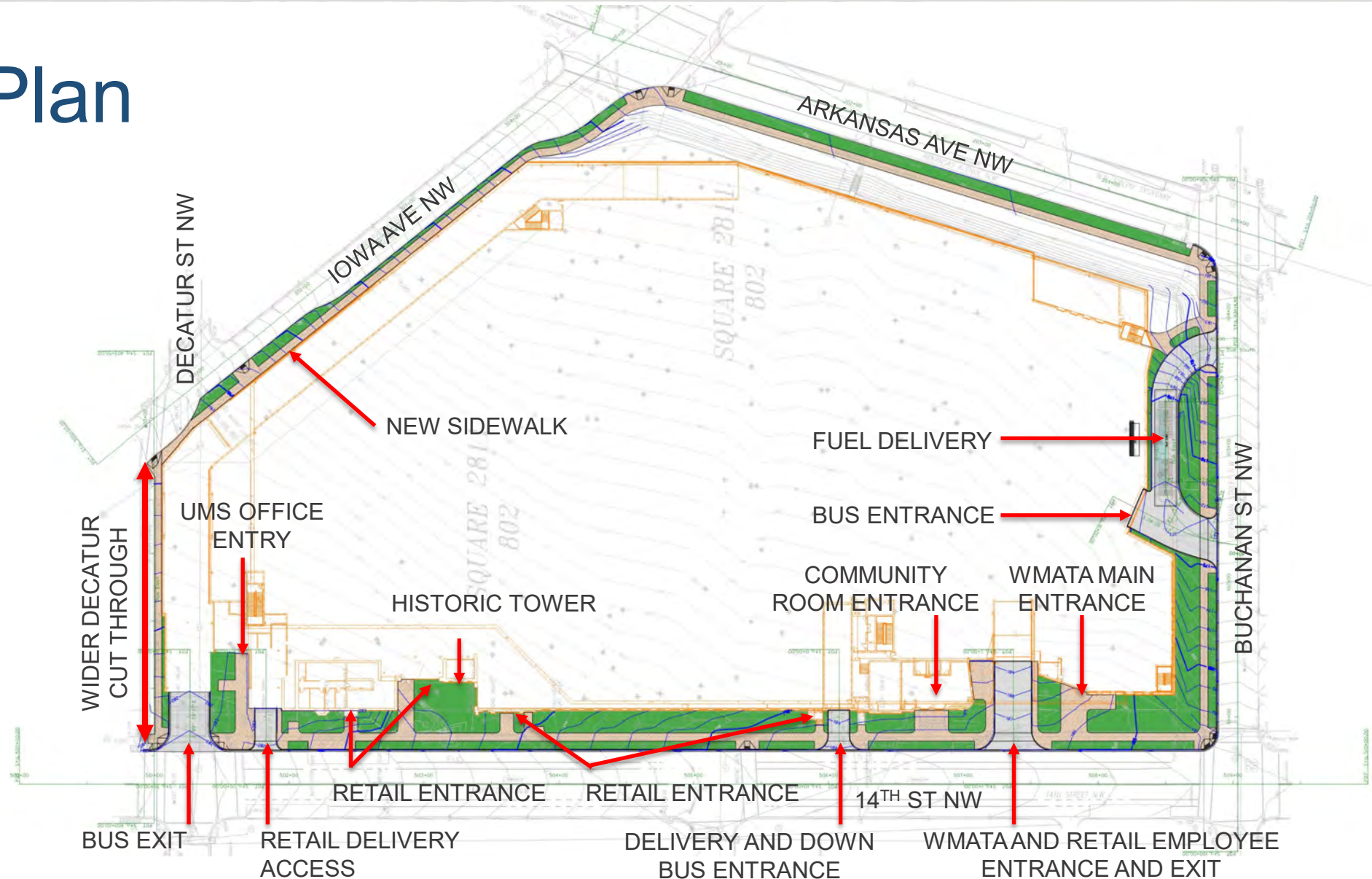


Previous Design

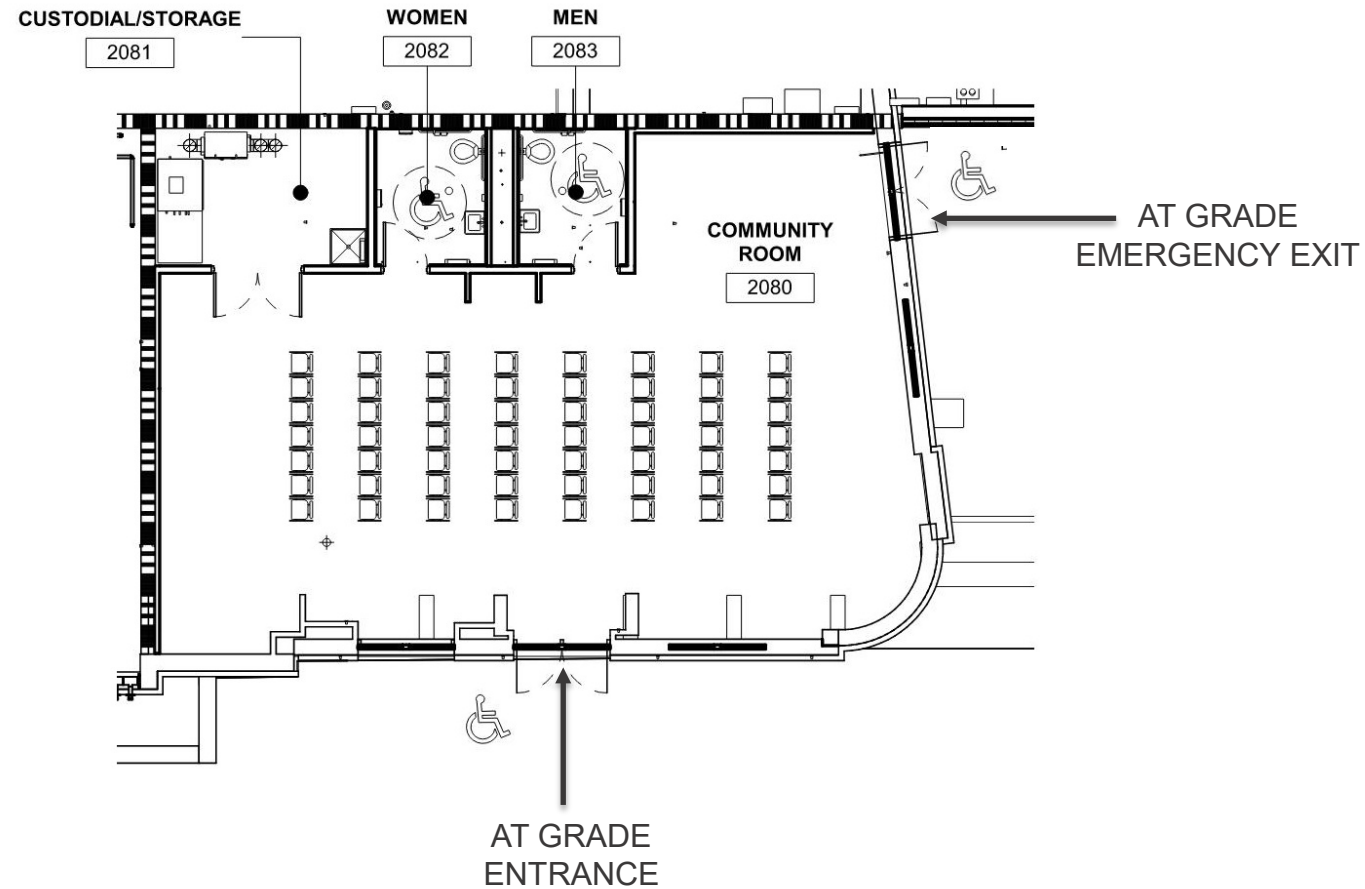
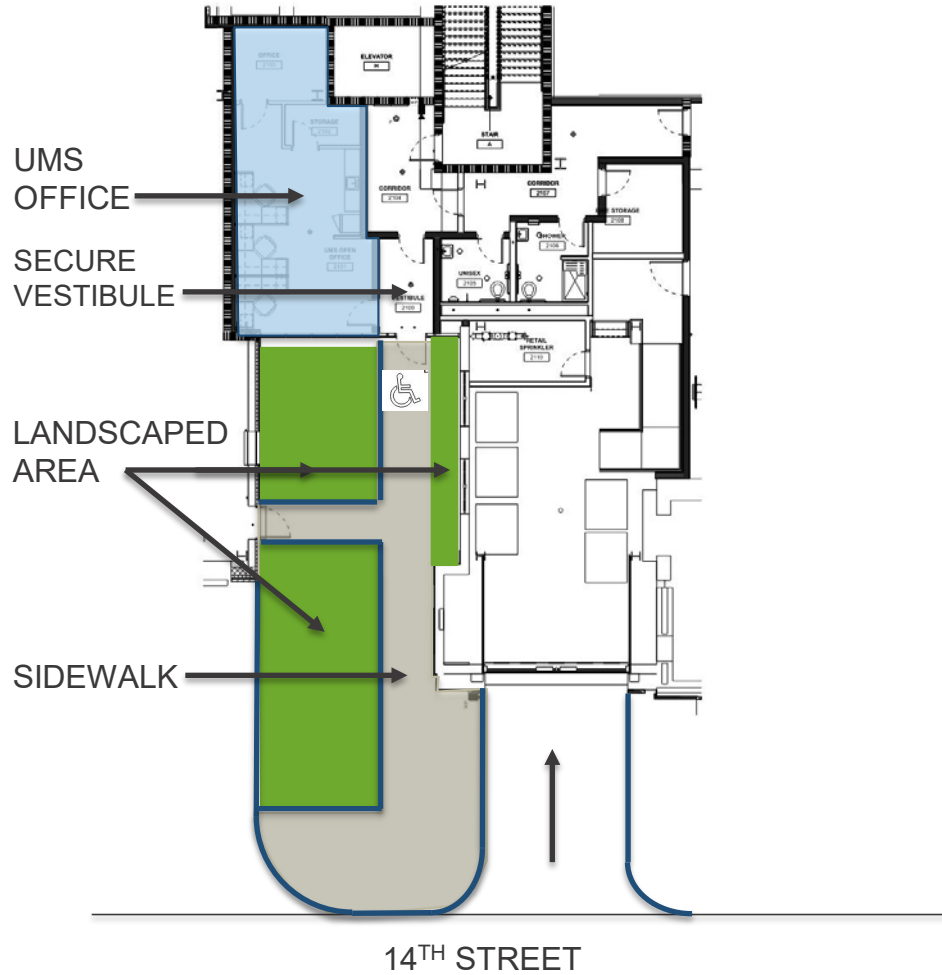


Current Design

Site Plan



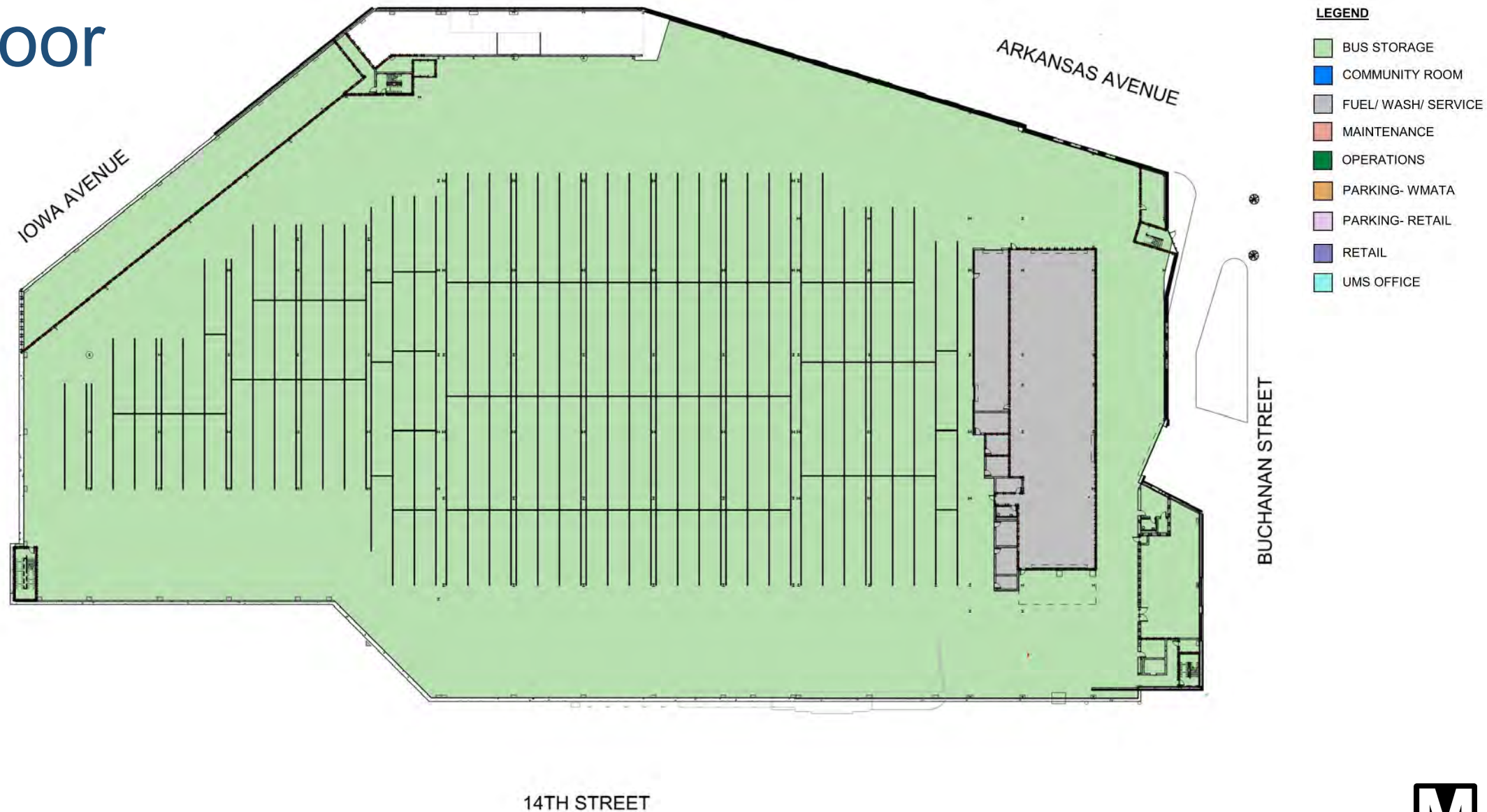
Uptown Main Street Office & Community Room



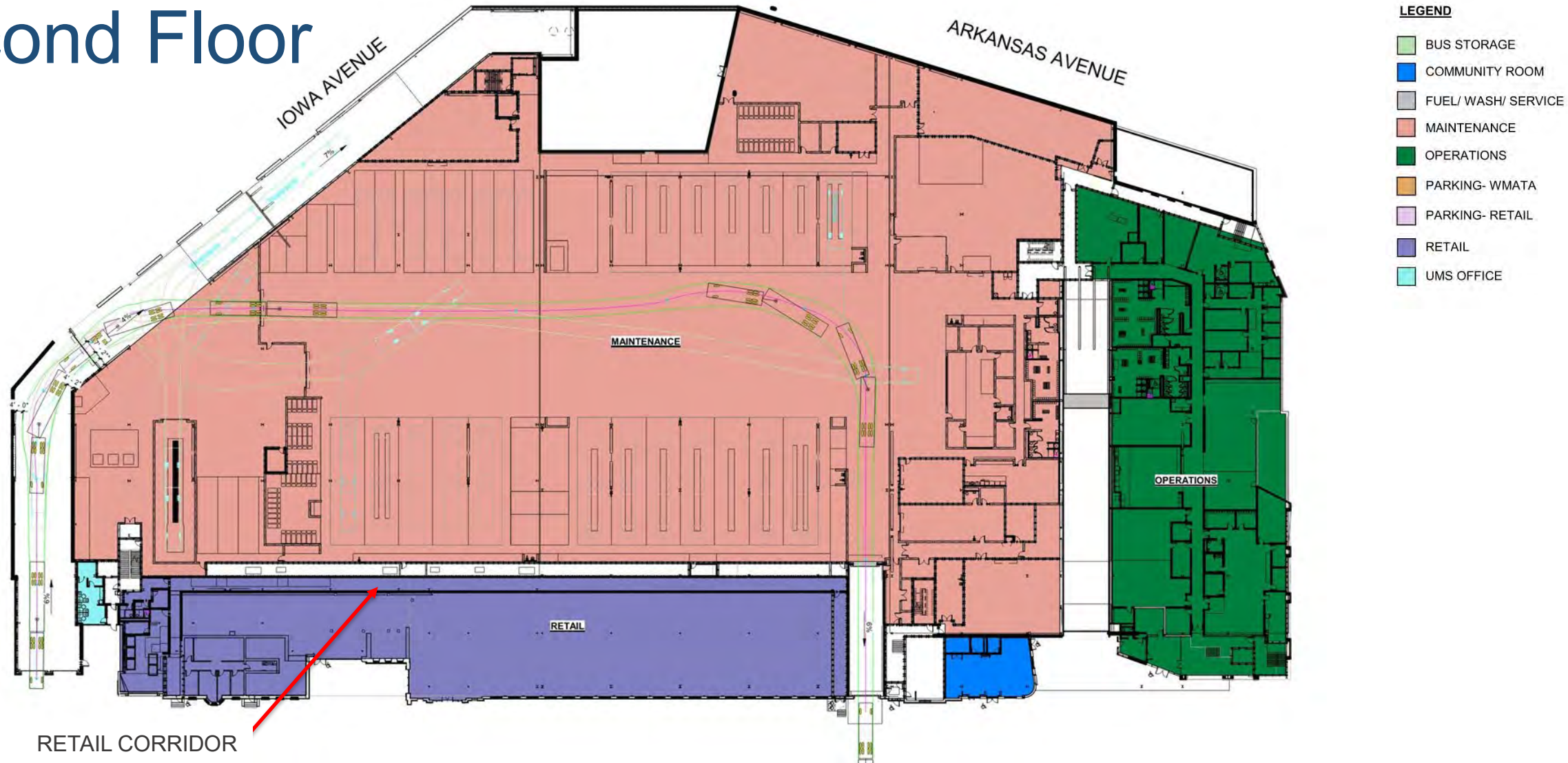
Uptown Main Street (UMS) Office

Community Room

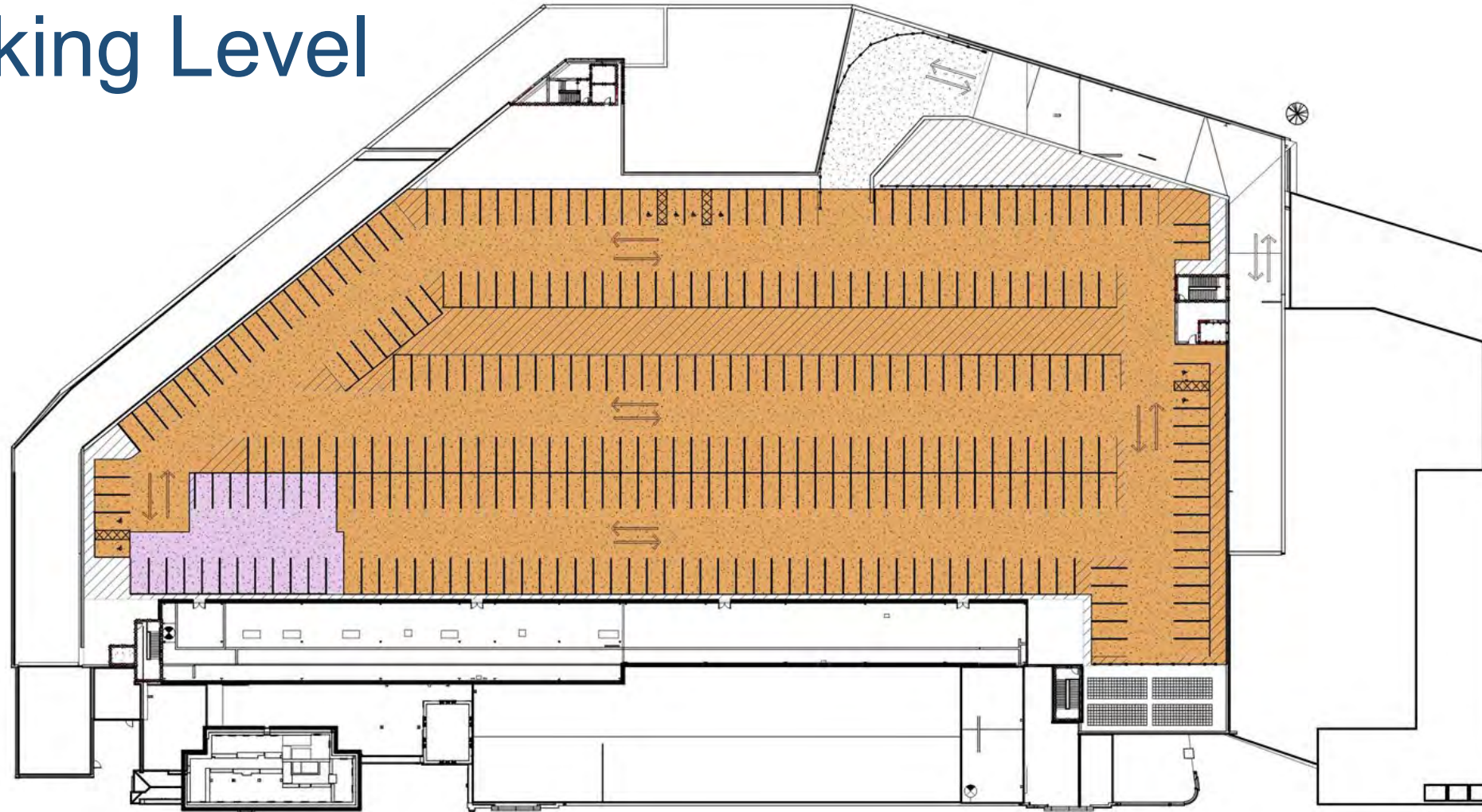
First Floor



Second Floor



Parking Level



LEGEND

- BUS STORAGE
- COMMUNITY ROOM
- FUEL/ WASH/ SERVICE
- MAINTENANCE
- OPERATIONS
- PARKING- WMATA
- PARKING- RETAIL
- RETAIL
- UMS OFFICE

Concept Solar and Green Roof Plan



Northern Bus Garage Reconstruction: View 1 – Corner of Buchanan St NW and 14th St NW



Northern Bus Garage Reconstruction: View 2 – On 14th St NW facing Southeast



Northern Bus Garage Reconstruction: View 3 – Corner of 14th St NW and Decatur St NW





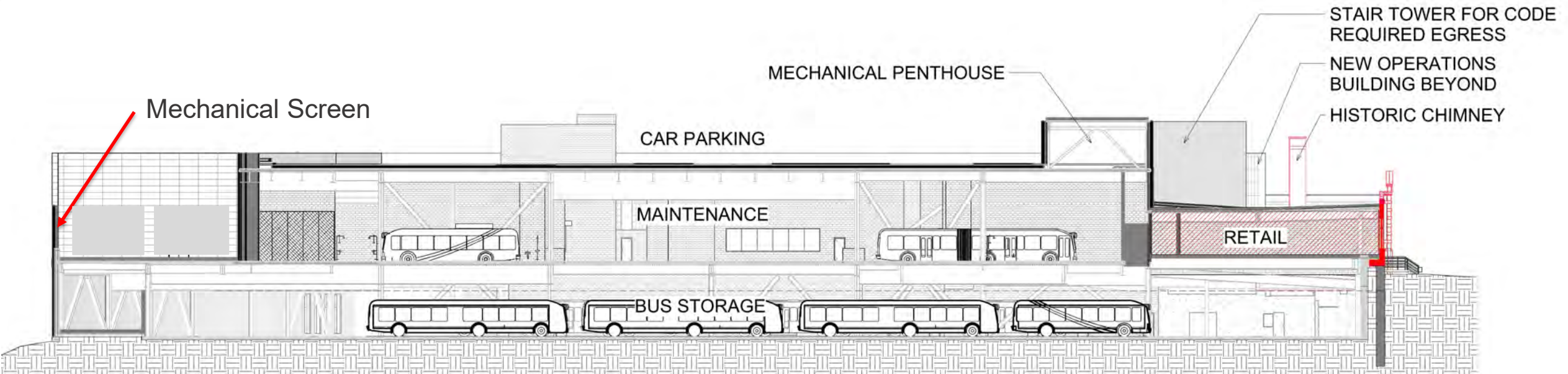
Northern Bus Garage Reconstruction: View 5 – Corner of Iowa Ave NW and Arkansas Ave NW Facing Southwest



Northern Bus Garage Reconstruction: View 6 – Corner of Buchanan St NW and Arkansas Ave NW



Northern Bus Garage Reconstruction: Site Sections



Building Section



Site Cross Section

Northern Bus Garage Reconstruction: Elevations



1 ELEVATION - OVERALL - NORTH
3/8" = 1'-0"



2 ELEVATION - OVERALL - WEST
3/8" = 1'-0"



3 ELEVATION - OVERALL - SOUTH
3/8" = 1'-0"



4 ELEVATION - OVERALL - EAST
3/8" = 1'-0"

Northern Bus Garage Reconstruction: Materials

ULTRA HIGH PERFORMANCE CONCRETE PANELS
INSTALLATION #1 - PANEL COLORS



RED PANEL 1



RED PANEL 2



RED PANEL 3

INSTALLATION #1 - PANEL FINISH



ROUGH 1

ULTRA HIGH PERFORMANCE CONCRETE PANELS
INSTALLATION #2 - PANEL COLOR AND FINISH



BEIGE PANEL 1



SMOOTH

HOLLOW METAL DOORS AND FRAMES



BENJAMIN MOORE - CABIN FEVER 1540

ALUMINUM CURTAINWALL SYSTEM



KAWNEER
FINISH - CHAMPAGNE ANODIZED

INSULATED WINDOW PANELS



MAPES
FINISH - CUSTOM GREY

METAL FASCIA AND TRIM



FINISH - CUSTOM GREY

BRICK



GLEN-GERY - EBONITE SMOOTH
RUNNING BOND, MODULAR BRICK



GLEN-GERY - EBONITE VELOUR
DETAILING LOCATIONS, MODULAR BRICK

CAST STONE



READING ROCK - LIGHT GRAY
WALL CAPS AND WATER TABLES

Question & Answer Period: Exterior Design Review

- Seeking questions and comments about the final exterior designs
- Please submit your questions through the meeting chat
- If the project team is unable to respond to your question during this meeting, you may contact us at MCAP_NBG_Reconstruction_Project@wmata.com
- Summary of the Q&A will be posted to: wmata.com/NorthernBusGarage

V. Next Steps for Project

November 2020

Engage w/ DDOT
and provide update
on the Garage
designs

December 17, 2020

Present final revised
design concept to
Historic Preservation
Review Board

January 2021

Anticipated to begin
Mayor's Agent
process on
demolition permit

- Future community engagement opportunities will be scheduled for 2021
- Updates posted to wmata.com/NorthernBusGarage and shared via email
- Email MCAP_NBG_Reconstruction_Project@wmata.com to join the project's community contact list or request additional information

Northern Bus Garage Replacement Community Engagement Meeting 5 – Tuesday, March 16 6:00PM – 8:00 PM Summary

1. Overview

The Washington Metropolitan Area Transit Authority (WMATA) conducted a virtual meeting to present a project update to the community. Previous meetings included Meeting 1 where the updated project design was presented and the design survey was launched. Meeting 2 gathered the community and Section 106 consulting parties to provide feedback on historic preservation components of the design and to present survey results. Meeting 3 focused on environmental issues and was well-attended. Meeting 4 presented the updated exterior design concept that was presented to the Historic Preservation Review Board (HPRB) on December 17, 2020. If all approvals are obtained in 2021, demolition and construction can begin in 2022 and the project could be complete by 2026.

The meeting presentation was conducted in three segments with a questions and answers session conducted after each segment's presentation.

2. Update on Project Status

Presentation

The project team reported that the HPRB had a few recommendations during the December 17, 2021 meeting. The board suggesting muting the bold colors used around entrances for both people and buses to better blend the components into the overall design. In addition, it was suggested that the car ramp area along Arkansas Avenue should be revisited to add vertical elements that help to break down the scale of the new building in this area. The presentation showed updated images that included vertical darker rectangular elements that repeat along the façade. At the south end, a screen will be included to hide the mechanical equipment and then the vertical rectangles will pick up again to maintain continuity along the façade.

Work is also underway to engage in Preliminary Design Review Meetings (PDRMs) with various city agencies to obtain iterative input in the design phase of the process to ensure all stakeholder input can be incorporated prior to presentation of a final design. These PDRMs include:

- DOEE Air Quality PDRM
- DDOT Public Space Committee PDRM
- DC Office of Zoning PDRM and
- Others.

The PDRM with DDOT resulted in design improvements including:

- Minimized curb cuts
- Reduced stairs/ramps for entrances

- Widened sidewalk along north wall from 6 feet to 12 feet
- Regularized Iowa Avenue curb line to allow for good sidewalk space plus larger tree planting/green buffer area
- Widened 14th Street sidewalk to 8 feet
- Removed curb cut in front of administration building south of Decatur Street
- Added reconstruction of traffic signal at 14th and Decatur Streets to improve pedestrian safety and
- Added bike racks and seating along sidewalks clear of the walking area.

In addition to the changes noted above, the project team highlighted the addition of a considerable number of trees along the building's perimeter and the preservation of trees already present. Iowa Avenue will be restriped to include one lane of parking and one lane for travel and will include traffic calming measures. It will remain one way. Fast-acting garage doors on the outside of the building have been moved further inside, with addition of secondary standard-speed garage doors on the outside that will be coordinated with the traffic signal. This will still allow for capture and treatment of all interior air.

Questions and Answers

Q: Are there plans by DDOT to resurface the streets around the garage prior to reopening? Specifically, the section around 14th and Arkansas that is full of cracks in the pavement.

A: Part of the construction is expected to include at a minimum new asphalt overlays, curb to curb, on perimeter streets around the garage and new pavement markings.

Q: Can Decatur Street be even wider to accommodate a "promenade" or "people's park" to enhance commercial space?

A: Metro has reduced the bus garage's footprint as much as possible and the proposed connector complies with DDOT's shared use standards. Any further widening would encroach on remaining carriage space on the adjacent private properties.

Q: Can Iowa Street be widened to enhance east/west travel?

A: Metro presented multiple concepts to DDOT for consideration, including an option that would have returned two-way traffic. DDOT clearly expressed their preference for 8-foot parking spaces with a single 11-foot travel lane northbound, which allows for full green space and lights down the entirety of Iowa Avenue and green space buffer to the garage.

Q: With wider sidewalks on 14th Street, how will that impact parking on 14th Street?

A: The widening of sidewalks on 14th Street will not decrease parking. In fact, the removal of the 50-foot curb cut will add two additional parking spaces.

Q: Will we lose any parking on 14th Street during construction?

A: There will be some impacts to parking during the construction phases. Metro has worked with DDOT to obtain temporary occupancy permits and will communicate impacts to the community prior to any parking being impacted.

Q: Are the surfaces of the red-mix side walls still metal panels? If so, why was metal ultimately chosen over brick?

A: The structure will consist of all masonry or concrete products; metal panels will not be included. There will be metal trim on the perimeter of the roof.

Q: Will the garage door at the exit open and close for each bus? With the use of more traditional doors, what is the impact on air pollution?

A: It depends. The doors will be controlled by sensors designed to pick up bus movement, so they will stay open if multiple buses are lined up to exit and would close once a bus is no longer present at the sensors. If only one bus is exiting, the doors will open once the bus triggers the sensor, and the doors will then close once the bus exits. If there are multiple buses exiting, then the door will stay open until all buses exit the facility.

The design intent is to restrict fugitive emissions through the doors. The space between the interior door and the exterior doors can store buses two deep. The exterior doors will be traditional sectional doors with motor operators; they will not be “fast acting.” The purpose of having two sets of doors, interior and exterior, is to be able to filter as much of the air as possible limiting any exhaust into the neighborhood.

Q: Did DDOT make any remarks on how trucks will unload to supply retail stores in the future? Where is the loading dock? What comments did DDOT make with respect to impacts on 14th Street, NW traffic when trucks are unloading?

A: Metro is working with DDOT to coordinate the best possible scenario for retailers and the community. There will be a designated commercial loading/unloading zone, with appropriate signage, on the east side of 14th Street. There will be a ramp from street to sidewalk to allow delivery trucks to move carts/hand trucks. Additionally, small dumpsters will be rolled out to trash trucks, and dedicated space is being incorporated to avoid double-parking scenarios.

Q: Are your commitments to the District Government agencies in writing?

A: All of Metro’s interactions with the community and partnering agencies are memorialized in meeting notes and public records, and its project commitments will ultimately be captured through the permitting process. Additionally, presentations and video recordings of these community meetings are available on the Northern Bus Garage project website, wmata.com/northernbusgarage. As a trusted organization, Metro is committed to being transparent and open with our customers and the community.

Q: Metro is seeking demolition of certain historic fabric as needed for construction of a project of “special merit.” Why does this project qualify as having “special merit?”

A: The Mayor’s Agent has the final authority to determine what is in the public interest under the DC historic preservation law, as the potential demolition of designated historic elements. All hearing requests for “special merit” are reviewed and either approved or denied by the Mayor’s Agent as outlined in DC special regulations. The project has special merit because it provides substantial District and community benefits and furthers local land use planning. The project also minimizes the loss of historic fabric and preserves or enhances the key historic features of the existing building.

Q: How is Metro working with minority business enterprise (MBE) programs on this project, and putting money back into the community?

A: Metro is committed to giving back to the communities we serve and providing local opportunities for minority small business owners. Clark was one of the many large prime contractors considered, and ultimately selected, for this project. Metro will be establishing a disadvantaged business enterprise (DBE) goal for the construction phase of this project once designs are further advanced and an estimate for construction costs is available. Based on the goal determined by Metro, Clark will be developing a DBE participation plan to meet this goal once the construction phase contract is awarded. All businesses wishing to be considered for the DBE program must complete Metro’s registration process or register with the District Department of Transportation. This project is funded, in part, with federal funds. Metro will follow federal DBE requirements for the project.

Q: Why hasn’t Metro shared its DBE numbers for this project?

A: We are in the preconstruction phase of this contract, so we do not have any data yet for the construction phase. During this time, Metro will assess the nature of work associated with the Northern Bus Garage Reconstruction and Metro’s Small Business Program Office will establish DBE goals for

participation once designs are further advanced and a construction cost estimate is developed. Clark will submit its DBE participation plan to align with established goals and Metro will evaluate Clark's strategy for including minority business owners. Clark has already awarded over \$5.5 million of work to DBE partners during the preconstruction phase and remains committed to maximizing DBE opportunities during the construction phase.

Q: How will Metro work with the community to address property damage related to this construction?

A: Metro is still in the design phase for this project. During the construction phase there will be established processes in place to address the community's concerns regarding property damage. There is an extensive instrumentation program that will be required to monitor vibration and potential ground movement around the perimeter of the construction site. As this project nears construction mode, we will revisit this topic and cover, in detail, the process for reporting concerns.

Q: Ten years from now, what is preventing Metro from putting a body shop/spray paint booth in the garage or adding more buses than the current number?

A: Body shop and spray paint booth functions have been permanently removed from this bus garage and distributed to other bus garages. Understanding community concerns and facility constraints these functions will not be returning to this facility under currently issues permits. Any change to these design plans will have to go through multiple level approvals by several different agencies. This process adds an extra layer of community involvement and ensures that Metro is abiding by all the necessary standards and guidelines. Metro is committed to open conversation and transparency with the community, and we will continue to host these community meetings on a quarterly basis until the new garage opens.

3. Environmental Design

Presentation

The garage design will be pursuing LEED Certification from the U.S. Green Building Council by incorporating solar panels, onsite stormwater retention, and noise reduction elements among other features.

Currently the project team is assembling a plan for investigation of contamination at the site and into surrounding properties. Plume tracing will be undertaken to analyze groundwater flow to identify where contamination is likely to have traveled. This will determine where test wells will be drilled to test for contamination.

If contamination is found, remediation is undertaken in different ways based on contaminated item:

- Soil is excavated and taken offsite to a treatment and disposal facility
- Groundwater is pumped through a treatment system and
- Soil vapors are extracted and treated.

Coordination meetings have been held with DOEE regarding air quality and water quality to ensure that all designs meet requirements and to review plans for remediation, monitoring, and mitigation.

The project team also reiterated the air quality technology that will be used to filter pollutants from bus garage interior air and the plan for ongoing monitoring.

Questions and Answers

Q: What is the efficiency for filtration of PM1?

A: Efficiency is 70-75% for MERV 14 filters although Metro continues to evaluate alternatives.

Q: Regarding filters, can you translate what it really means when the manufacturer states its filters are 85-90% effective?

A: Metro is committed to rebuilding a cleaner, more environmentally sensitive garage and as such has exceeded the regulations and guidelines set forth by DOEE for air filtration. Manufacturers follow industry standards.

Filter efficiency varies based on the size of particles (measured in microns). '85-90%' filter efficiency means that the filter is designed to capture 85-90% of particles that pass through the filter banks. These filters have been exhaustively tested in a wide range of facilities and have a proven track record of being highly effective at capturing particles associated with vehicle exhausts. For more information, refer to the standards developed by the American Society of Heating, Refrigeration and Air Conditioner Engineers (ASHRAE).

Q: How often will Metro change the filters in the bus garage? 10 years from occupying the new facility, how often will the filters be changed?

A: We need to understand how systems will perform when the garage is fully operational. The first year of operation will be an observatory year and filters will be inspected monthly for the first six months, and quarterly after that. Filters are expected to need to be changed every six months. After the first year of operation Metro will assess the findings to establish the proper filter replacement frequency long term.

Q: Why isn't Metro selecting more efficient filtration systems for filtering PM1?

A: Metro is committed to ensuring all its systems either meet or exceed safety standards and will select a filtration system that complies with DOEE guidelines and best suits the operational needs of the facility.

Q: Can you provide more detail on the contaminant chemicals you are finding at the site?

A: Metro is working closely with DOEE to identify and mitigate contaminants. Contaminants have been identified as coming from two sources, underground storage tanks and industrial operations. Metro is working with DOEE to develop a comprehensive understanding of the contaminants, including petroleum hydrocarbons from the underground storage tanks and chlorinated compounds associated with industrial operations.

Q: "Other industrial operations" is vague, can you clarify what chemical contaminants are in the soil and water?

A: See response above.

Q: Are any of the ground contamination monitoring locations outside of Metro's property boundaries? And if not, how will those areas be evaluated for contamination issues and treatment or removal needs?

A: In addition to testing land within its property borders, Metro will test multiple locations outside of its property lines through a series of "plume-chasing" exercises, as recommended by DOEE. The testing program is designed to provide soil and groundwater quality sampling of the area surrounding the garage. During this process, Metro will be in communication with the residents and will not enter a homeowner's yard without permission. After initial testing and analysis, upon review of the findings by DOEE it may be deemed necessary to expand our investigations further.

Q: Will Metro investigate yards beyond their property for contaminants? If found, will they clean up and monitor the property?

A: Metro's goal is to be protective of human health and the environment. We will work closely with DOEE to ensure we have the appropriate remediation program in place, meeting all guidelines within the scope of DOEE regulations.

4. Zero Emission Bus Program

Presentation

The project team reviewed WMATA's plans for zero emission buses, including benefits and challenges to implementation. Major challenges include the need to coordinate for investment in grid infrastructure, facilities, and vehicles as well as investment in new bus vehicles. This is further complicated by the rapid pace of technology change which makes planning difficult.

However, the agency is undertaking a pilot test of electric buses to understand issues on a small scale prior to rolling out a larger electric bus fleet. WMATA obtained a Federal Low-No Emission Grant to assist with this program that also includes engaging utilities, peers, and experts around this issue. In addition to designing the Northern Bus Garage for electric bus readiness, the Bladensburg Bus Garage will also be designed in this way.

The Shepherd Parkway Garage will be retrofitted with overhead pantograph chargers and bus routes will be adjusted to ensure buses can complete routes on a single charge. By summer 2021, the agency will have developed benchmarking assessment and criteria to evaluate the results of the pilot.

Questions and Answers

Q: Why is Metro considering diesel buses and not solely zero-emission buses?

A: Metro is committed to transitioning to a zero-emission bus fleet. However, as explained in prior community meetings, the infrastructure needed to support a zero-emission bus fleet is new technology to Metro (as well as to other cities across the country). A test fleet is imperative to ensuring we have the right infrastructure in place to continue to provide Metro customers with reliable and dependable service. Shepherd Parkway has the power to charge buses and the overhead parking deck needed for overhead chargers, which is among some of the reasons why that site was selected for testing of zero-emission buses. What we learn from Shepherd Parkway will inform Metro's zero emission bus fleet plan and ultimately the future of Northern Bus Garage. In any event, the Northern Bus Garage has been designed to enable a future zero-emission bus fleet.

Q: If the plan is to move towards zero-emission buses why is there a need for diesel fueling stations? And how does that square with the new diesel-fueled buses Metro ordered in 2019?

A: The transition to a zero-emission bus fleet will be a phased approach. The diesel-fueled buses, ordered in 2019, are necessary to help bridge the gap until Metro's 10 bus maintenance facilities have fully transitioned to a zero-emission fleet. Additionally, all of Metro's garage locations need to have multiple ways of running buses. In the event of an emergency – such as a power outage – Metro needs to be able to maintain operations.

Q: How long will it take Metro to get an electric fleet?

A: There are many components that impact Metro's timeline to transition to a full zero-emission bus fleet, including making sure the right infrastructure is in place, in particular with the power distribution grid, to support the technology needed to operate a ZEB fleet.

Q: What is the difference between zero-emission buses and electric buses?

A: Zero-emission buses and electric buses are essentially the same. Electricity is used to power the bus, using a battery pack that powers the motor and eliminates emissions at the tailpipe.

Q: Do you have projections of relative proportions that you expect for the fleet as a whole or for Northern Bus Garage? In 2025, what proportion of the fleet will be diesel versus electric?

A: Metro is developing its zero-emission bus fleet plan. Once the plan is approved, details will be shared with the public.

Q: Will maintenance personnel retraining influence how fast we convert the bus fleet over?

A: There are always challenges involved with workforce changes. However, Metro is committed to ensuring its employees are trained and ready to maintain and operate a ZEB fleet when the time comes. The vendor selected to furnish Metro's ZEB fleet will be required to provide training on the new technology as part of the procurement requirements.

Q: Why not wait to open Northern until Metro is able to open as an all-electric fleet?

A: The Northern Bus Garage is located near high ridership corridors and when operational it serves as a critical Metrobus maintenance, repair, and operational hub. The temporary closure of Northern was necessitated by safety concerns within the existing facility, which will be remediated by the reconstruction project. As detailed study has shown, keeping the garage closed past its reconstruction phase would ultimately adversely impact Metro's service to customers.

5. Next Steps

The project team will present the design to the Mayor's Agent on March 26, 2021 to obtain the needed demolition permit. Following that, the design must be presented again to the HPRB. Environmental investigations around contamination on and near the site will continue into June, with recommendations for remediation steps from DOEE expected in July. The design is expected to be finalized in November and if all goes to plan, construction could begin in 2022. The website <https://www.wmata.com/initiatives/plans/northern-bus-garage/> will be updated throughout.

The next community meeting will be held Tuesday, June 15, 2021.

6. Comments

It is believed that the above represents an accurate description of the major events that transpired at this meeting. Your notification of any errors or omissions within five (5) working days of receiving these minutes is important, as the foregoing is intended to be part of the record and is the basis upon which WMATA will proceed.

Respectfully Submitted,



Brian McMahon
HNTB Project Manager

Northern Bus Garage Reconstruction Project



**Spring Community Update
Meeting**

March 16, 2021



Meeting Etiquette

Metro wants to hear from you. Here are a few guidelines to keep this meeting productive and mindful of all attendees:

- You will have an opportunity to ask questions following each section of the presentation.
- To ensure we hear from as many community members as possible, please adhere to the Q&A protocol:
 -  Type questions directly into the chat
 -  Raise your hand to speak by typing your name into the chat
- When speaking:
 - Maintain a civil tone
 - Be mindful of time so that your fellow community members can share their feedback

Anyone in violation of the meeting etiquette guidelines will be muted for the duration of the meeting.

Agenda

- ❑ Introductions & Project Overview
- ❑ Project Updates
- ❑ Rebuilding an Environmentally Responsible Bus Garage
- ❑ Zero Emission Bus Program Update
- ❑ What to Expect in 2021
- ❑ Questions

Introductions & Project Overview

Northern Bus Garage Reconstruction Project

Project Team

- ❑ Diana Levy, Director Capital Delivery WMATA
- ❑ Jim Ashe, Environmental Coordinator WMATA
- ❑ Rachel Healy, Director Sustainability WMATA
- ❑ Dave Michels, Vice President BUS Maintenance WMATA
- ❑ Philip Sheridan, Clark Construction
- ❑ Mike Randolph, STV Inc.

Recap of Project Events

- December 2020
 - Historic Preservation Review Board (HPRB) – Conceptual Plan Approval
- January 2021
 - Meeting with ANC Leaders
- February 2021
 - DDOT Public Space Committee Hearing – Conditional approval of public occupancy of Decatur Street and Iowa Avenue under previous permits
 - Received notice of Mayor's Agent hearing date on raze permit
- March 2021
 - Mayor's Agent hearing



Project Updates

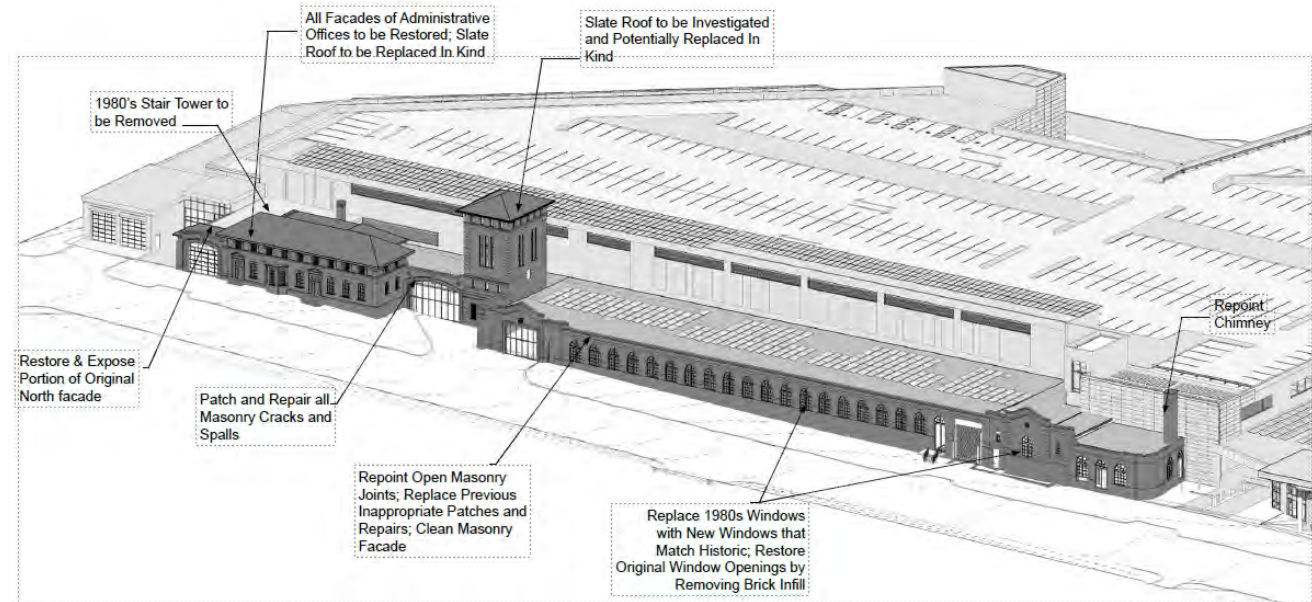
Northern Bus Garage Reconstruction Project

DC Historic Preservation Review Board

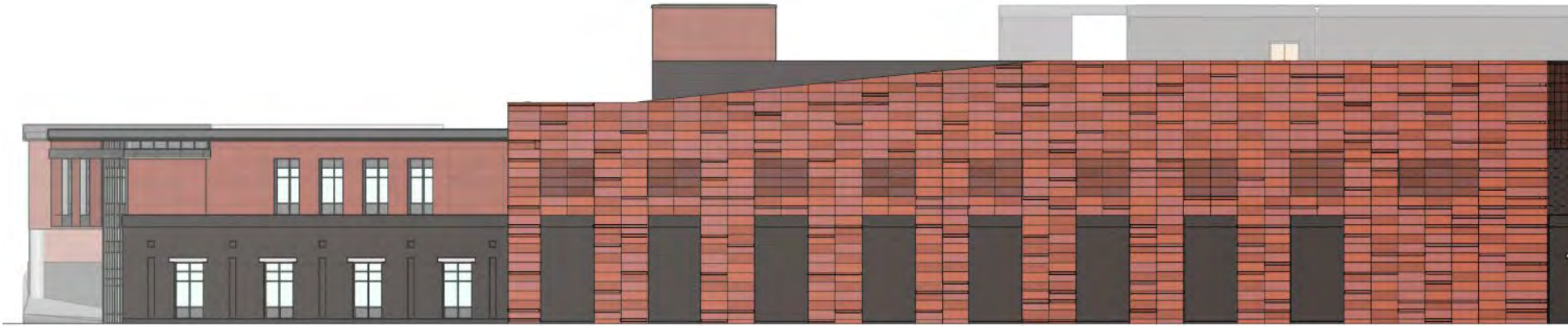
- On December 17, HPRB unanimously approved current concept designs
- HPRB also made recommendations to further improve design aspect:
 - Color scheme of the post and beam structure at the building entrances
 - Color scheme and extension of the brick veneer above the garage doors
 - Introduce additional elements to the Arkansas Avenue wall to break down the scale of the car ramp area
- Ongoing coordination with State Historic Preservation Office (SHPO) staff
- Final designs to be presented to HPRB

Northern Bus Garage Preservation Treatment Approach

Programmatic Massing of New Construction to Historic Building



DC Historic Preservation Review Board

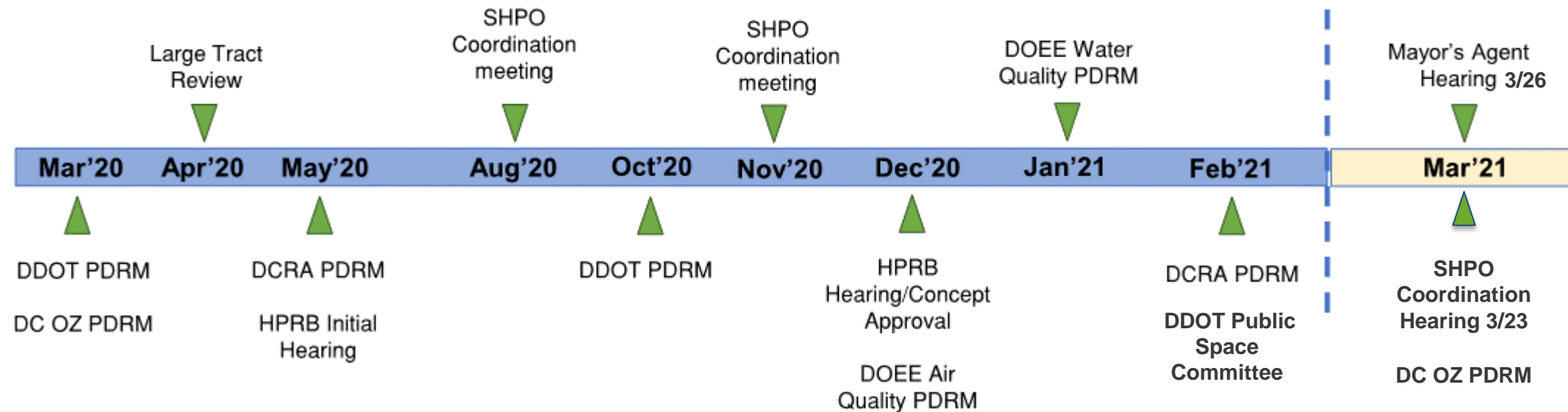


Proposed updates to Arkansas & Iowa Avenues' elevation, showing current concepts pending SHPO approval.

Vertical patterns are being introduced to “break down the scale” based on HPRB guidance



Agency Collaboration



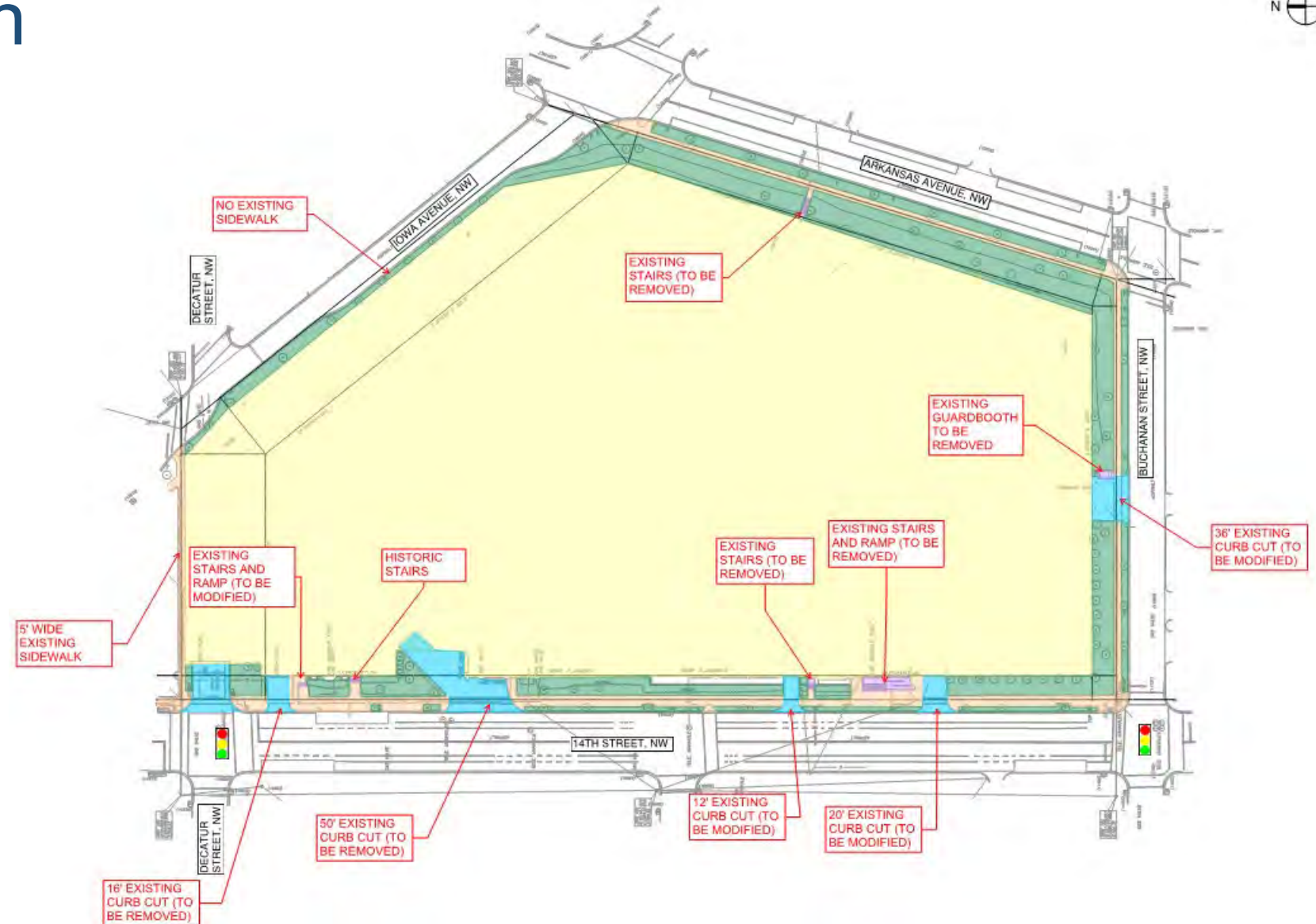
DDOT – DC Department of Transportation
DC OZ – DC Office of Zoning
DCRA – Department of Consumer and Regulatory Affairs
DOEE – Department of Energy & Environment
HPRB – DC Historic Preservation Review Board
SHPO – State Historic Preservation Offices
PDRM – Preliminary Design Review Meeting

DDOT Coordination

ACTION	OUTCOME
Minimized Driveway Curb Cuts	Improved site operations
Maximized at-grade entrances	<ul style="list-style-type: none"> • Improved ADA accessibility • Reduced stairs/ramps in the public space
Widened from 6' to 12' east-west well-lit corridor	Created safer pedestrian/bike connectivity north of the building
Improved Iowa Avenue Cross Section making it more uniform, retaining one-way with parking on east side	<ul style="list-style-type: none"> • Provides for new sidewalk and green space buffer along west side • Provides for enhanced pedestrian experience and screening of the building
Widened 14 th Street Sidewalk from 6' to 8'	More pedestrian friendly atmosphere
Removed curb cut south of Decatur Street	Improved pedestrian safety
Rebuild traffic signal at 14 th Street and Decatur Street	Improved vehicular and pedestrian safety

Existing Site Plan

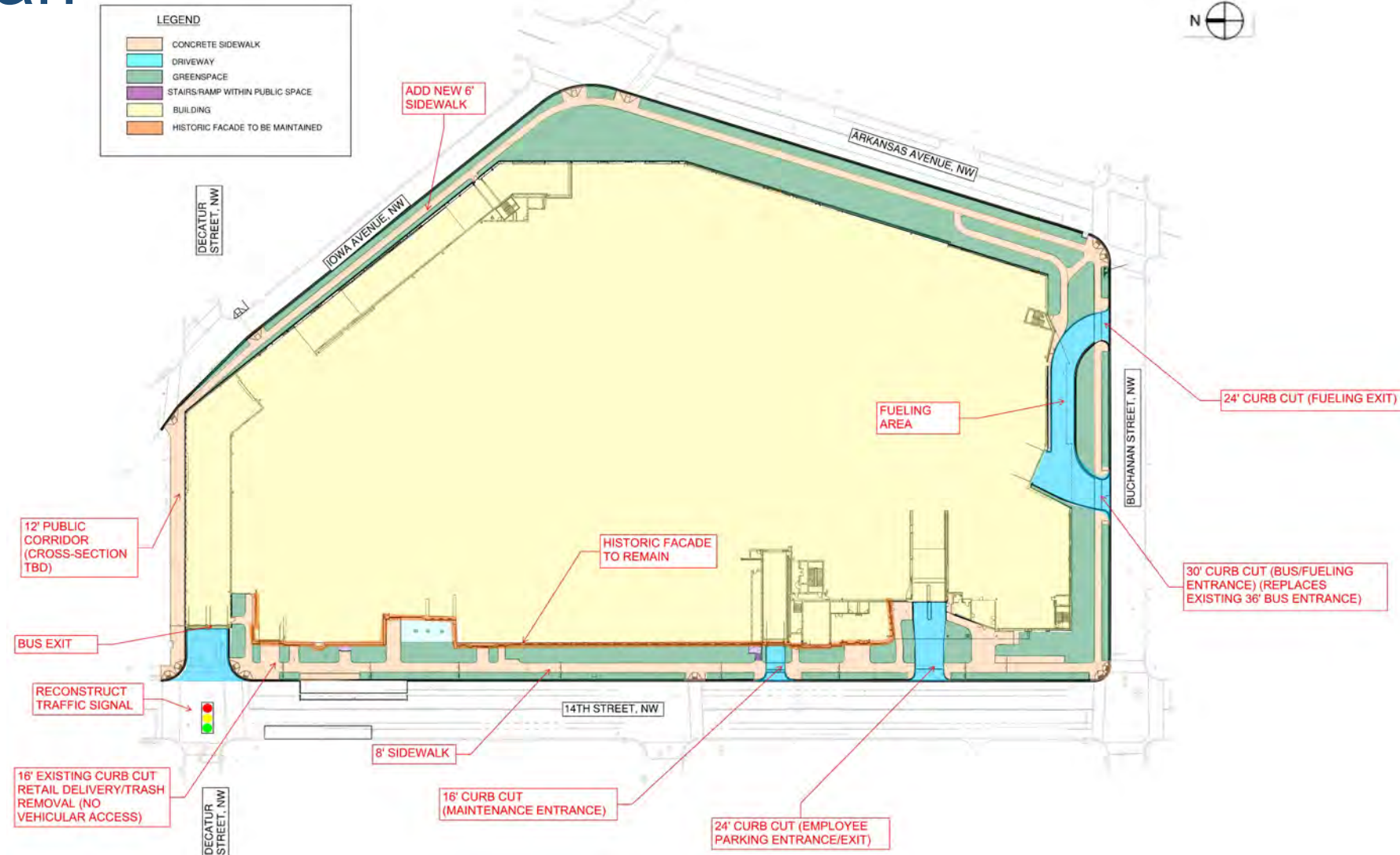
- Missing Sidewalk connection along Iowa Avenue
- Substandard sidewalk width on Decatur Street
- No Bike Rack/Seating amenities
- Large number/size of curb cuts along 14th Street



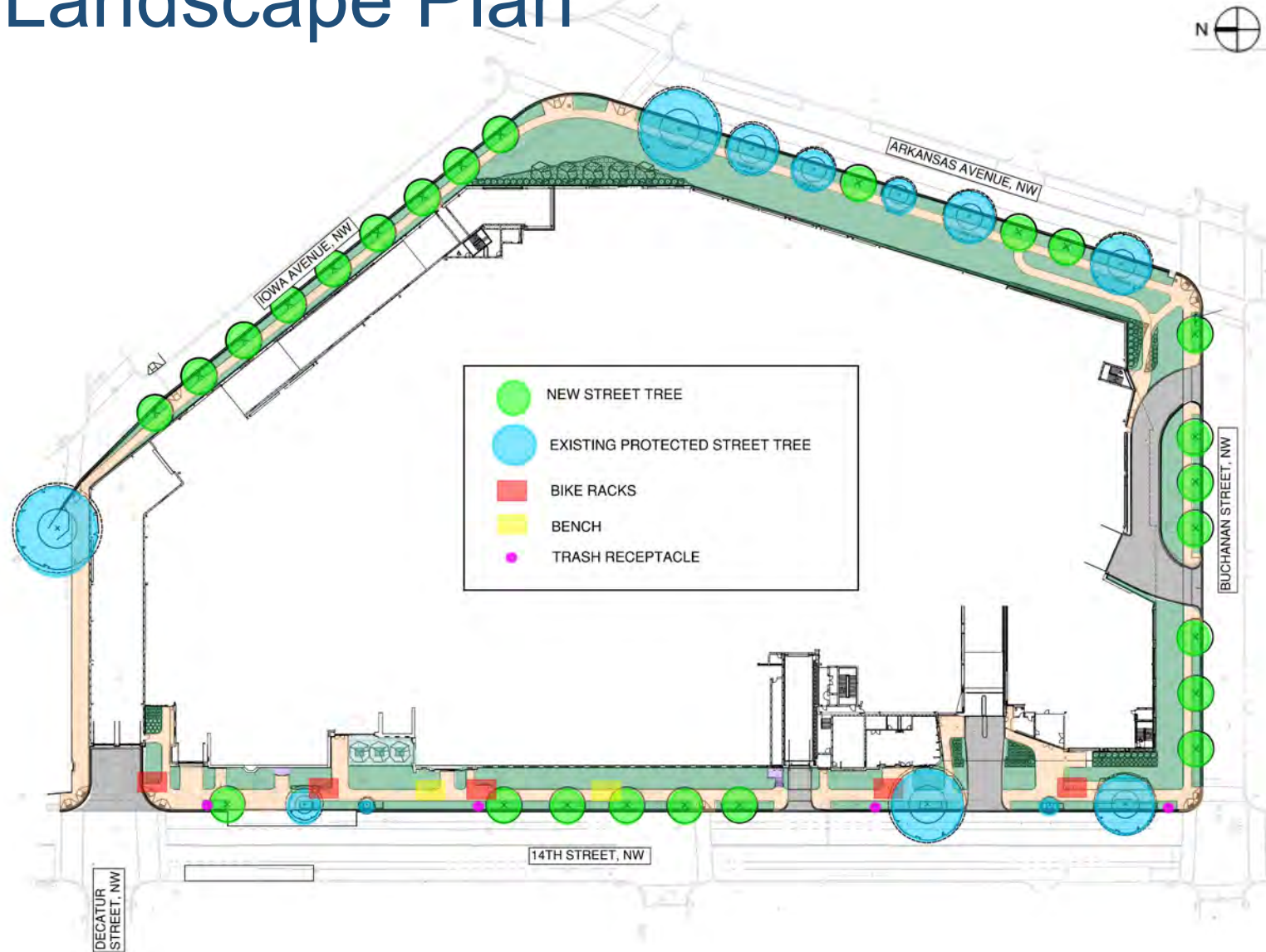
Proposed Site Plan

Improvements since last meeting:

- 360 Perimeter Sidewalk, widened sidewalk along 14th Street and Decatur Street
- Reconstruct Traffic Signal (14th/Decatur)
- Removed large curb cut on 14th and curb cut adjacent to Decatur
- Minimized Employee Entrance width by shifting the guard booth
- Reduced Bus Entrance curb cut from existing



Proposed Landscape Plan

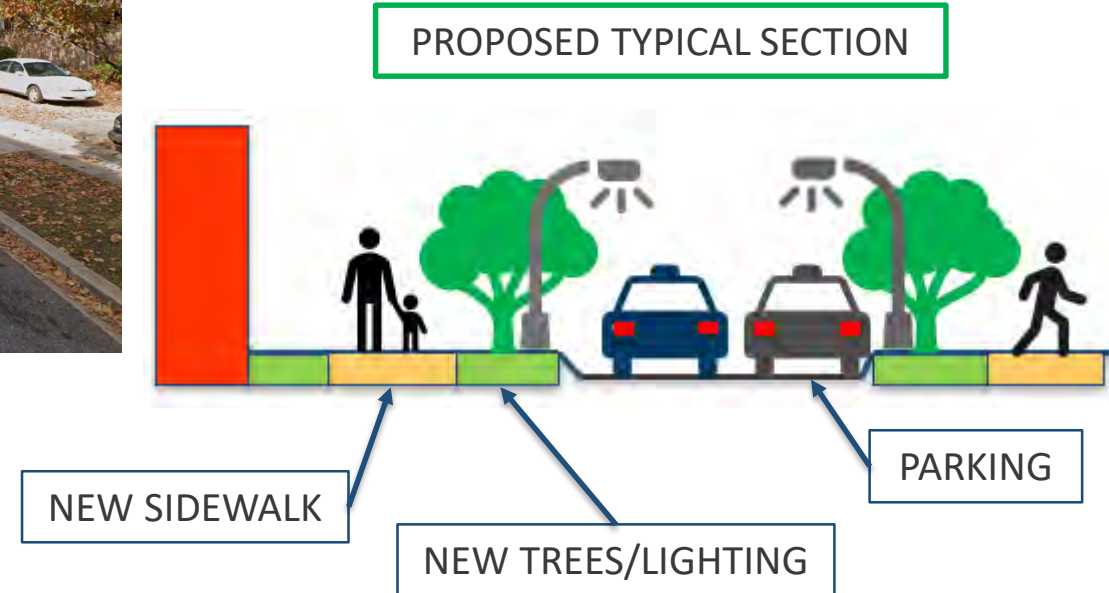


Iowa Avenue Improvements

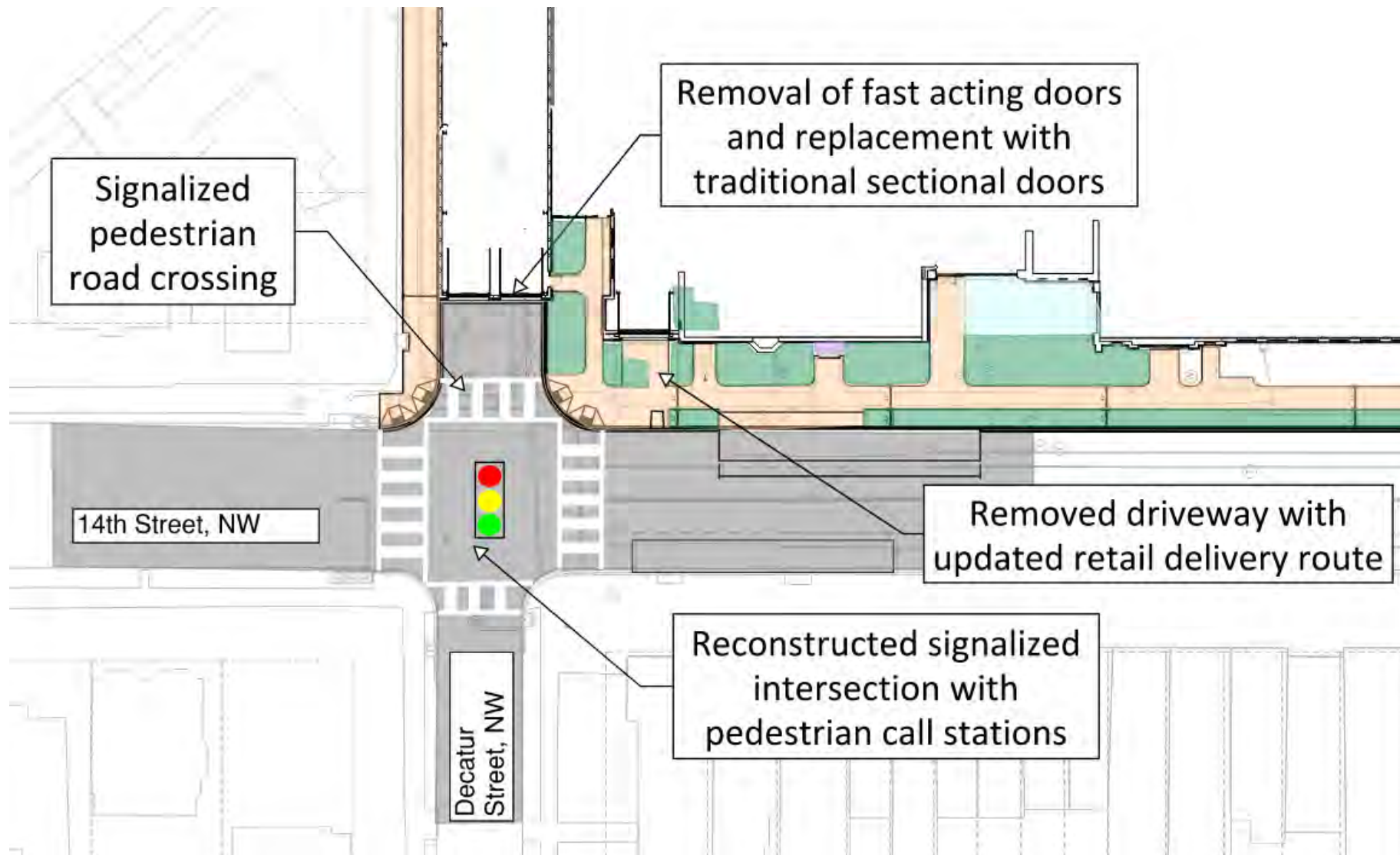
- 6' Sidewalk added on west side of Iowa Ave
- DDOT tree planting space and streetlights added on west side of Iowa Ave
- Green space landscaping buffer between sidewalk and building adding on west side of Iowa Ave
- Iowa Ave remains one-way northbound with parking on east side



EXISTING ROADWAY



14th Street at Decatur Street



Mayor's Agent Hearing

- Mayor's Agent hearing is scheduled for March 26
- Limited to Raze Permit application
- Mayor's Agent Public Hearing procedures can be found on the DC Office of Planning's website or by scanning the QR code:



<https://bit.ly/3sQmkOk>

MARCH 2021						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
28	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26 ✓	27
28	29	30	31	1	2	3

Any Questions?

There are two ways to submit your questions



Type your questions directly into the chat.



Raise your hand to speak by typing your name into the chat.

Rebuilding an Environmentally Responsible Bus Garage

Northern Bus Garage Reconstruction Project

Environmental Design

- Pursuing LEED Certification from U.S. Green Building Council
 - Solar panels
 - Onsite parking for employees
 - Enclosure of Decatur St. to minimize noise impacts to community
 - Onsite stormwater retention
 - Level of LEED Certification will be determined through a combination of points awarded based on LEED points, LEED credits and LEED prerequisites.

WMATA Workplan & DOEE Coordination

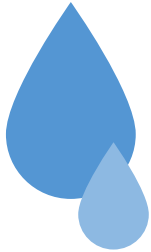
- December 2020: DOEE Letter received
 - Comprehensive Site Assessment Directive letter requiring submission of Work Plan, for investigation of contamination
- January 2021: DOEE Briefing
 - DOEE directed four wells near Arkansas and Iowa Avenues, and submission of work plan on February 18
- February/March: Investigation Workplan
 - WMATA Environmental Group requests eight additional well points to be included in the scope of investigations
 - DOEE's feedback on the workplan – five additional areas
 - WMATA will integrate the two areas into a single work plan

Site investigations will continue in Q2-Q3 2021

Subsurface Contamination Remediation



Soil is excavated and taken offsite to a treatment and disposal facility



Groundwater is pumped to a treatment system for removal of the contaminants. Technology depends on the contamination. This technology is commonly called a 'pump-and-treat' system



If warranted, soil vapors can be extracted and treated

Agency Collaboration

■ DOEE Air Quality Meeting Recap

- Reviewed proposed air filtering equipment
- Reviewed air quality permit requirements for all major equipment including:
 - Emergency generator
 - Boilers
 - Hot water pressure washer
- Reviewed hazardous materials that will be stored on site for bus operations
- Reviewed site emission calculation requirements and timing of permit applications

■ DOEE Water Quality Meeting Recap

- Reviewed site history
- Reviewed existing soil and groundwater impacts and mitigation plans
- Reviewed site investigation results to date
- Reviewed remediation strategy and excavation limits
- Reviewed additional investigation needs and remediation limits (Tier 1 Level)
- Future monitoring needs
- Proposed CSA work plan structure
- Regulatory limits for vapors and metals
- Soil boring permit procedures

Air Pollution Treatment Overview

- 14 Units using Dry Scrubber Technology
- Two-stage treatment system designed to remove contaminants in the exhaust stream
 1. Particulates
 2. Gases
- Particulate Matter (PM): larger particles that are seen in the 'soot' of the diesel exhaust
 - Filtering system to be used: MERV 8 and MERV14 filters
 - ASHRAE estimates 85% and 90-95% efficiency respectively
- Gaseous components: automotive exhaust fumes, nitrogen oxides, hydrocarbons, volatile organic compounds
 - Filtering system to be used: Blended media of aluminum oxide, activated carbon, sodium bicarbonate, sodium permanganate, potassium carbonate
 - Purafil estimates 99.5% removal efficiency

Air Pollution Technology: Maintenance

■ MERV Filters

- Will be checked by monitoring pressure differences across the filters
- Will be monitored monthly for the first six months to determine frequency of replacement, then quarterly after that

■ Chemical Filters

- Will be checked by sending samples to a laboratory
- Will be monitored monthly for the first six months to determine frequency of replacement, then quarterly after that

Anticipated replacement (industry practice) every six months

Any Questions?

There are two ways to submit your questions



Type your questions directly into the chat.



Raise your hand to speak by typing your name into the chat.

Zero Emission Bus Program Update

Northern Bus Garage Reconstruction Project

Zero-Emission Bus: Transformational Investment Opportunity for Sustainability and Equity

BENEFITS



Cleaner air, reduced greenhouse gas and tailpipe emissions



Quieter vehicles, less vibration, increased comfort



Decreased use of fossil fuels, reduced fuel costs



Reduced operation and maintenance costs

CHALLENGES



Additional capital investment in grid infrastructure, facilities, and vehicles



Major fleet and facility investments with rapidly maturing technology



Fleet lifecycle/replacement timing



Coordination/partnership

Zero-Emission Bus – Steps to Full Implementation

Test and Evaluation Program

- Maturity of technology
- Operational trials
- Review interoperability

Energy Infrastructure Investments

- Identify, fund and build utility infrastructure required to operate service

Policies & Rate Structures

- Establish regional policies and energy rate structures

Funding for Buses & Facility Conversion

- Increase investment to replace fleet and upgrade facilities
- Additional capital investment ~\$500M over six years; \$2B over 25

For additional information see Metro's [Zero-Emission Bus Update](#)

Zero-Emission Bus – Progress To Date

- Awarded Federal Low-No Emission Grant
- Acquiring ~12 electric buses
- Engaging utilities
- Consulting peers and experts
- Updating Metrobus Fleet Plan
- Electric bus ready design - Northern and Bladensburg bus facilities
- Total of ~\$25M included in capital program for test and evaluation



Test and Evaluation Status

- ***Consists of 10 x 40' and 2 x 60' buses at Shepherd Parkway Garage***
- ***Testing and evaluating new overhead pantograph charging standard (SAE J-3105) and interoperability + scalability of current electric bus and charger technology***

Completed

- ✓ Competitive federal grant award - June 2020
- ✓ Initial electric grid analysis with Pepco
- ✓ 30% design documents
- ✓ Vehicle technical specifications
- ✓ Consulting Contracting

In Progress

- Construction contract
- Charger specifications
- Bus route modeling
- Complete 60' electric bus contracting

Next Steps

- Contract and finalize construction/design
- Begin infrastructure construction
- Issue solicitations for 40' buses and overhead chargers

Project Schedule

Task	Scheduled Start	Scheduled Finish
Develop Benchmarking + Assessment Criteria	Winter 2021	Summer 2021
Bus Contracting and Production	Summer 2021	Summer 2022
Infrastructure Design and Construction	Summer 2021	Summer 2022
Commissioning and Startup	Summer 2022	Fall 2022
Test and Evaluation Deployment	Fall 2022	Winter 2023



Any Questions?

There are two ways to submit your questions



Type your questions directly into the chat.

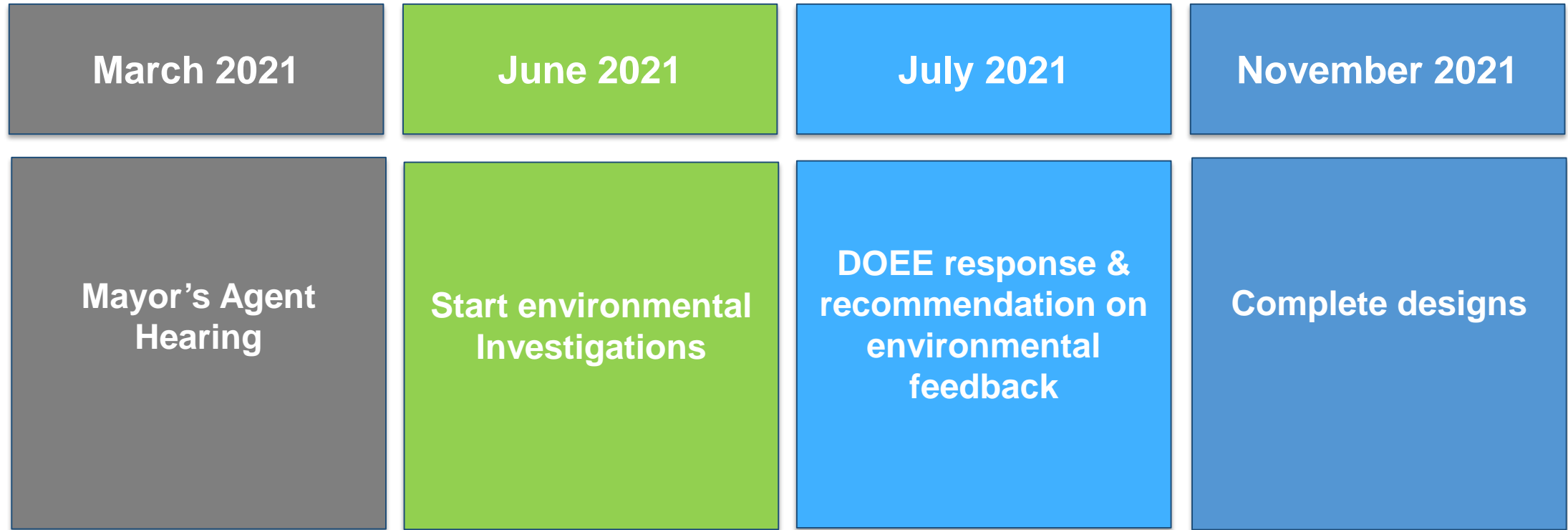


Raise your hand to speak by typing your name into the chat.

What to Expect in 2021

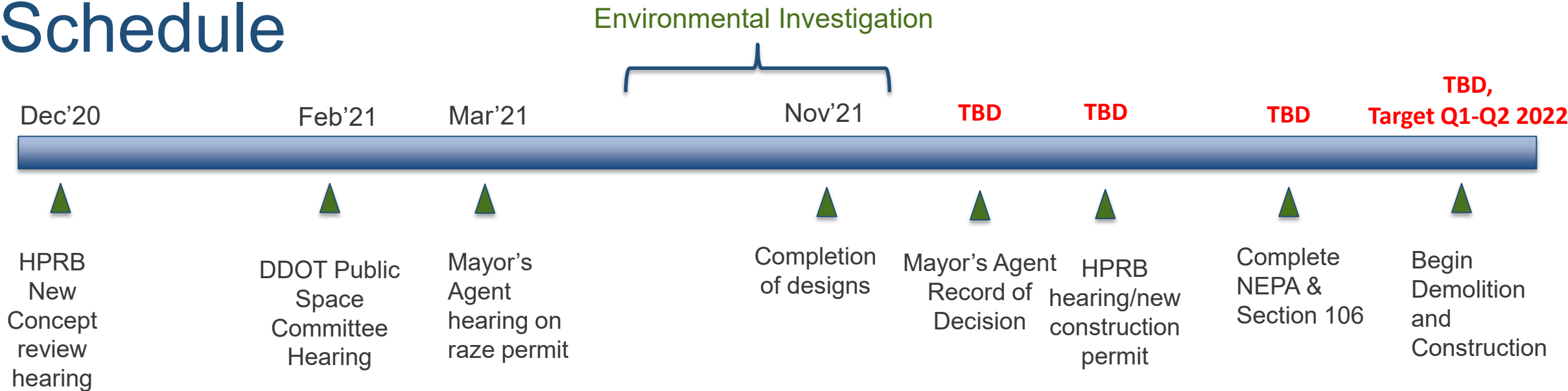
Northern Bus Garage Reconstruction Project

2021 Project Milestones and Timeline



- Updates posted to wmata.com/NorthernBusGarage and shared via email
- Email MCAP_NBG_Reconstruction_Project@wmata.com to join the project's community contact list or request additional information

Schedule



Mayor's Agent clearance of raze permit as necessary for project of special merit, NEPA review, and Section 106 process must be received/completed before project can begin demolition/construction



Upcoming Community Engagement Meetings



Summer

*June 15, 2021

Fall

*Sept. 21, 2021

Winter

*Dec. 14, 2021

****Dates are subject to change***

Any Questions?

There are two ways to submit your questions



Type your questions directly into the chat.



Raise your hand to speak by typing your name into the chat.

Northern Bus Garage Replacement Community Engagement Meeting 6 – Tuesday, June 15 6:00PM – 8:00 PM Summary (6/21/21)

1. Overview

The Washington Metropolitan Area Transit Authority (WMATA) conducted a virtual meeting to present a project update to the community. The meeting presentation was conducted in five segments with a questions and answers session conducted after each segment's presentation. The segments included:

- Update on Project Status
- Environmental Design
- Construction Monitoring
- Art in Transit
- Zero Emission Bus Strategy

Previous meetings included Meeting 1 where the updated project design was presented and the design survey was launched. Meeting 2 gathered the community and Section 106 consulting parties to provide feedback on historic preservation components of the design and to present survey results. Meeting 3 focused on environmental issues and was well-attended. Meeting 4 presented the updated exterior design concept that was presented to the Historic Preservation Review Board (HPRB) on December 17, 2020. Meeting 5 presented additional updates to the design following HPRB recommendations and discussed environmental monitoring and WMATA's zero-emission bus plans. It was noted in Meeting 5 that if all approvals are obtained in 2021, demolition and construction can begin in 2022 and the project could be complete by 2026.

2. Update on Project Status

Presentation

The project team held a series of meetings with the following groups since the last community meeting:

- Advisory Neighborhood Commission (ANC) leadership
- Councilwoman Janeese Lewis George
- DC Office of Zoning
- State Historic Preservation Office (SHPO)
- District Department of Transportation (DDOT) Public Space Committee and Urban Forest Division
- Pepco and Washington Gas
- Department of Energy and the Environment (DOEE)

The DC Office of Zoning meeting included discussion of transitional setbacks to ensure the new garage facility provides the appropriate facing and engagement with the surrounding buildings in the neighborhood. The meeting also covered the mechanical penthouses that will surround heating,

ventilation, and air conditioning (HVAC) and other mechanical items on the roof of the building to reduce visual and noise pollution for neighbors.

DDOT meetings discussed how the loading zone will accommodate the delivery and refuse removal needs of the garage and its retail tenants while maintaining a safe environment for road and sidewalk users. Urban Forest Division staff and the project team planned around preservation of existing trees on the site. The project team worked with Pepco and Washington Gas to identify existing utilities to plan safe demolition activities and to design for services to be rerouted, if necessary, to reconnect to the new facility. DOEE is currently reviewing stormwater management plans and the project team expects this to be complete in June.

At the Mayor's Agent meeting on March 26, 2021, WMATA staff provided testimony in support of the required Raze Permit that will allow demolition of parts of the current facility to allow for construction of the new facility. Additional testimony was provided by Northern Bus Barn Neighbors, 14th Street Uptown Business Association, 16th Street Neighbors Association, and others. The Mayor's Agent review is underway and the project team is awaiting a decision.

Since the December 17, 2021 meeting with the HPRB and subsequent meetings with the SHPO, the project team has updated the facility design to reflect community and stakeholder input received to date. The high-performance concrete panels have been made a consistent red color and other elements have been added to break down the scale of the walls of the new facility. The team presented other changes by view, which are summarized below. These additional refinements to the facility design will be shown to SHPO in August.

- View 1: Removed vertical band above the bus entrance/exit garage doors and moved wall back to allow more of the historic façade to be visible from the street.
- View 3: Additional brick detailing has been added to the façade and the Uptown Main Street and employee entrance heights have been reduced.
- View 4: Red panels have been made a consistent red color.
- View 5: A perforated panel has been added to allow light through and to break down the scale of the wall. The top portion of the wall has been set back further to additionally break down the scale.
- View 6: The wall has been reduced in height by a few feet.

Beyond the design of the facility itself, the project team has also been refining the site design. To showcase the historic nature of the building as a streetcar trolley barn, the historic trolley entry will be highlighted through landscape design and information will be provided for the public, perhaps through signs or plaques nearby.

Inside the facility, work is underway to collect data on the size and depth of existing wall footings, the elevation of bedrock, and depth of underground storage anchor slabs. This information is critical to ensure the design of the new facility is appropriate and excavation does not interfere with a sewer main located under 14th Street. This data collection effort requires mechanical breaking of the existing facility's concrete floor followed by hand digging of holes.

Other work inside the facility is to validate the new foundation design by measuring the capacity of soil and rock underneath the existing garage. This requires a physical test onsite called a caisson load test. Both efforts will be complete in June.

The project team concluded this section of the presentation by updating the community on design package status:

- Design package one:
 - Civil works, utilities, landscape, grading, foundation, steel frame
 - 75% level design submitted April 16, 2021
 - 90% level design expected to be complete August 4, 2021

- Design package two:
 - Mechanical, plumbing, electrical, exterior, interior
 - 75% level design expected to be complete June 7, 2021
 - 90% level design expected to be complete October 19, 2021

Questions and Answers

Q: There is a lot happening on 14th Street, with the bus stop, bike lane, retail delivery, trash, and recycling pick-up, etc. How will Metro manage potential conflict between all these activities?

A: The intersection at 14th and Decatur will be signalized for vehicle and bicycle traffic to assure safe bicycle movement along 14th street. The designated commercial loading zone will be laid out such that it will not interfere with the bus stop on the east side of 14th street. The traffic movements in and out of the east curb lane will need to be executed with the same level of care as currently required in the presence of a designated bike lane. In addition, all roadway markings that delineate the various functions will be updated to comply with DDOT's latest standards for designated bike corridors.

Q: Is the change in height minimal? What is the building height on 14th Street and is there a higher setback?

A: The planned height of the exit portal at Decatur is lower than the existing portal. There will be no changes to the height of the historic façade which ranges from 18-24' above grade, but the new building will rise to approximately 47' above grade at the midpoint of the block. This increase in height above the historic façade occurs approximately at a 60' further setback. The new administration end of the building near Buchanan Street will be about 10' higher than the current parking deck parapet.

Q: What activities are happening now in the garage? Recently, there has been some noise level increases and disturbance to the community.

A: The construction team was in the garage chipping concrete for test pits and hand excavation. The test pitting process requires us to remove a small section of the concrete slab to access the soil underneath. These activities are taking place during daytime hours, from 6:30 am – 4:00 pm. There is some noise disturbance during the concrete removal, but this process is predominantly hand excavation and is intended to minimize disruption to the community. We are also drilling two test shafts for the new building foundation system. For this process, all drilling is taking place inside the bus garage and all drilling and testing will be completed over the next 45 days.

Q: District law has certain decibel levels that no one can exceed. How do you ensure you comply and what permits do you have to be doing work in the building [Northern Bus Garage]?

A: All current work is compliant with DDOT regulations. As we advance into the demolition and new construction phases of the project, we will be monitoring noise during construction to make sure we remain compliant with District regulations relevant to the construction activities. Noise mitigation measures, if required, may involve the use of special equipment or special noise management barriers. Metro did receive permits for all drilling work from DOEE. The permits are posted on the southern glass entry door on 14th Street.

Q: What is Metro doing about rodent control?

A: Metro has an ongoing contract with a pest management firm for rodent and pest control for the bus garage.

Q: How many retail spaces will be included in the facility, and have the vendors been selected?

A: We are considering several concept layouts and have engaged CB Richard Ellis, a full service commercial real estate firm, to ensure we optimize the use of space. One of the concepts under

consideration has four to six retailers between the administrative building and the larger retail space south of the tower. In terms of vendor selection, we do not have any vendors contracted and typically would not until construction is nearly complete.

3. Environmental Design

Presentation

A Comprehensive Site Assessment Work Plan was submitted to DOEE in February 2021 and a revised plan incorporating DOEE comments was resubmitted in May 2021. Final approval was received on June 4, 2021 and work is currently underway. The revised work plan includes four monitoring wells near Arkansas and Iowa Avenues inside of the existing building and 18 well points located across the property both within and outside of the existing building. For each well point, two water samples and one to two soil samples will be taken.

The purpose of these monitoring wells and well points is to identify the extent of soil and water contamination on the site. Findings from samples taken will inform the remediation efforts required to remove the contaminated material as part of construction activities. If contamination is found, remediation is undertaken in different ways based on contaminated item:

- Soil is excavated and taken offsite to a treatment and disposal facility
- Groundwater is pumped through a treatment system and
- Soil vapors are extracted and treated.

Because the community asked for improved air filtration, a change was made to upgrade the level of filtration from MERV 14 to MERV 16. MERV 16 filters are the highest level of filtration available for commercial and residential applications and will provide a minimum efficiency of 95%, meaning that at least 95% of all particles, including the smallest particle size measured, will be removed from the air. Filters will be monitored monthly for the first six months to understand how often they must be changed to effectively protect the community.

Questions and Answers

Q: For the site assessment, where will the 18 well points be located? And are any of them located on Buchanan Street?

A: The 18 monitoring points are located throughout the building property as well as across the street and down gradient from the bus garage. Four wells will be located inside the building near the intersection of Iowa and Arkansas Avenue and some wells will be placed alongside the Arkansas and Buchanan sides of the facility in the green space. In addition, a series of 4 wells will be installed in the public space along the east side of Arkansas Avenue near the edge of the sidewalk. Metro's goal is to gain a comprehensive understanding of contamination originating from the garage property, including prior to Metro's occupancy. In partnership with DOEE, we will investigate all potential sources of contamination, including sources along Buchanan Street. Metro's commitment is to identify and treat all contamination to meet or exceed DOEE standards.

Q: Why are there four wells at Arkansas and Iowa Avenue? Can the plan between WMATA and DDOT be shared with the community?

A: The well point locations were identified in collaboration with DOEE, which specifically requested further investigation into these areas based on the results of the initial sampling program conducted in 2020. We will determine with DOEE if the plan can be shared publicly.

Q: Describe the well points; are they going to be enclosed from the community?

A: There are two different well types being installed. For the monitoring wells (long term) we will drill down to bedrock and collect samples and install PVC pipes with lockable steel covers that will be maintained so periodic sampling can be conducted. These will not be accessible to the community and will be located inside the building. The other excavation activities will include temporary well points, where we will drill to bedrock, collect samples, and re-fill the excavated areas with cement grout per DOEE standards. Any disturbed tuft areas outside the building will be restored. All drill spoils will be collected and stored in steel drums inside the building prior to removal and proper disposal offsite.

4. Construction Monitoring

Presentation

The project team identified four areas where monitoring equipment will be placed before and during construction to protect adjacent property owners:

- Groundwater
- Adjacent structures
- Ground
- Utilities

Seismographs will also be placed at the perimeter of the project to monitor vibration. All monitoring equipment will be in place prior to the start of construction to establish a baseline of at least 30 days. Construction will be monitored throughout and data will be compared to the baseline to determine if impacts are in excess of allowed levels and normal activity.

All properties within 200 feet of the bus facility's property boundary will receive a pre-existing condition survey prior to the start of construction. This survey will cover both the interior and exterior of the property being surveyed. Invitations to property owners will be sent 90 days prior to the start of construction and owners can schedule their survey directly with the provider when convenient. Surveys are not required; however, without a pre-existing condition survey, later claims may be limited. Therefore, the project team strongly encourages all property owners to complete a survey. Owners will receive both hard and electronic copies of the survey for their records.

If a property owner decides to file a claim after construction is complete, the claim will be submitted to Clark Construction's risk department. Clark's insurance provider will then assign an adjuster and schedule with the property owner for an inspection. Owners will receive a written estimate for the cost of repairs, though at any time the owner can obtain an independent opinion of cost if desired. If the claim has merit, a settlement will be agreed upon and payment will be made. If the claim is found not to have merit, a letter will be mailed to the owner notifying them of the decision and the process for appealing.

Questions and Answers

No questions.

5. Art in Transit

Presentation

During construction, the site will be surrounded by temporary protective fencing to ensure community safety. The project team designed mock-ups for art to be included on the perimeter fencing to show the community during the meeting. These graphics are still in progress and final versions will be completed in coordination with a panel of community representatives. After agreement, WMATA will issue a procurement for the production and installation of the art.

Draft graphics showcase the facility's history as a streetcar trolley barn and will include elements from the neighborhood and a social media photo location.

Questions and Answers

Q: What is the proposed timetable for installation of temporary art banners on the construction site exterior fencing?

A: Currently, we don't have a set timeline. The installation of the art panels is contingent on the construction phase perimeter fencing installation. The perimeter fencing will be erected prior to the start of construction and should take approximately one month to complete. We will not be able to commence construction until we have the Mayor's Agent determination on the related raze permit.

Q: What happened to the historic artwork that was previously proposed? Why is there such a focus on buses?

A: As a reminder, the artwork on the fencing is temporary. The artwork presented at previous meetings was placeholder content and did not represent proposed artwork. Metro's Art in Transit team is in the design phase for the artwork on the perimeter fence the design presented during this meeting is only associated with the perimeter fence. These fabric panels will be installed as the long-term perimeter security fencing is installed prior to the start of construction. Panels will be installed around the entire project perimeter and will remain in place throughout construction. The idea behind the design for the proposed, temporary art panels is to highlight the neighborhood, and the evolution of transportation in the context of the garage and its connection with the city, through a series of scenes that will be installed on the construction fencing. The intent of the panels to help screen some of the construction activities. These art panels will be removed at the end of construction. We hear the community's concerns and we will be sure to take them into consideration as we move forward with planning. Metro will work with the ANC to create a panel of community representatives to review the proposed graphics before they are finalized. Long-term art installations at the site will be discussed more in-depth at our next community meeting.

Q: Will there be a URL or QR codes on the artwork where people can find out more information about the project?

A: Yes, it is something that we are planning to include.

6. Zero Emission Bus Strategy

Presentation

WMATA undertakes a fleet plan update every five years to plan for the number and type of buses that must be procured to ensure reliable service throughout the region. However, because of the uncertainty around the pandemic and ridership levels, an interim update will likely be completed in the next year or so. Considerations during fleet plan updates include:

- The level of service provided (hours, frequency, routes)
- The number of buses required to provide that level of service
- The type of buses to use
- The facilities needed to support the fleet (locations, size, fueling/charging infrastructure)

The project team reviewed the benefits of electric buses, but noted that the US has around 55,000 transit buses in operation and only 500 of them are battery electric buses (BEBs). So far, BEBs have not yet demonstrated consistent reliability on par with conventional vehicles, which can cause problems for an agency like WMATA that must provide reliable service to its customers. WMATA targets a level of reliability of 85%, but BEBs at other agencies average a level of 74%.

Despite this, WMATA is preparing and planning for conversion of the fleet to zero-emission buses, which could be BEB or another technology like hydrogen fuel cells. WMATA plans include:

- Pilot testing of 10 standard length BEBs and two articulated BEBs housed at the Shepherd Parkway garage
- Delivery of BEBs in early FY2023
- Hiring of staff to work on electrification efforts
- Exploring hydrogen fuel cell bus pilot and evaluation

WMATA's draft zero-emission bus strategy lays out the planned activities and timeline for conversion to a zero-emission fleet. This strategy was presented to the board on June 10, 2021 and may be adjusted before being voted upon. Highlights of the draft strategy were presented to the community and included the following:

- The next bus procurement is lower-emission and electric buses only (no diesel buses will be included)
- By 2030, bus procurements will be entirely electric
- By 2045, the entire fleet will be zero-emission

These activities will result in a 56% percent emission reduction by 2030.

However, the project team cautioned that much of the conversion to zero-emission vehicles is outside of WMATA's control and requires coordination with—and action by—utilities, municipalities, and others.

Questions and Answers

Q: Has Metro taken into consideration the uptick in personal vehicle registration in D.C.? People are opting out of public transportation due to COVID concerns. Has that been factored into the four key points?

A: Ridership has dropped due to COVID-19, but we expect it to recover over time. Because fleet management is a long-term planning exercise, Metro must keep the fleet and necessary support in place to sustain service and support ridership when it returns to normal levels.

Metro conducts a fleet planning exercise every five years. Over the next two to three years, Metro may conduct additional planning exercises and updates which will take into consideration customer demand, level of services needed, and any continued impacts from COVID-19.

Q: In your presentation, you classified Metro's peer groups – one of those classifications is the "Wait and See" group. Is that the group Metro is in?

A: Metro is committed to transitioning to a zero-emission bus fleet. Preparations are ongoing as a part of Metro's Electric Bus Test & Evaluation program, which will see its first electric buses join the fleet in 2022. So, Metro is not in the wait and see group. We are eagerly doing the work now to make sure we have the right infrastructure in place to support a fully electric bus fleet.

Q: Of the proposed \$375 million to reconstruct the bus garage, roughly how much of that will be spent on underground tanks for fuel, oil, transmission fluid, etc.? How does Metro justify that spending?

A: To maintain service levels and ensure no disruption to customers, we need some redundancy in the fueling systems. The diesel fueling system investment is only approximately 2% of the overall project costs. For example, if there is an extended network wide power outage, it is not possible to recharge the electric buses with emergency backup generators. That's why we continue to invest in diesel storage; those investments do not impact Metro's commitment to achieving a fully zero-emission fleet by 2045.

Q: Does this mean more construction down the line? Will Metro need more construction in 2040 to remove the tanks and make room for electric buses?

A: The bus garage will be able to support electric buses with no effect on the fuel delivery system of underground diesel tanks. Additionally, we will need to maintain some diesel-fueled buses at the garage, which can be used in emergency scenarios, so we do not plan to remove the UST when the building is running a ZEB fleet. To comply with current UST regulations, double wall tanks will be used that will be installed in a secondary concrete containment vault that has removable covers. This facilitates removal and replacement in the future when the tanks have reached the end of their useful life, without the need for extensive construction excavation.

As the electric buses are purchased and brought on-line, they will be a one for one replacement with existing diesel buses from a storage standpoint at NBG and no more room will need to be made for them. The bus facility is also being designed to accommodate the additional equipment that will be needed to support the electric bus fleet including charging stations and overhead layouts for the charging pantographs and the rooms needed for the additional electric switchgear.

Q: What assurances do we have that Metro is moving away from diesel fuel? What are Metro's commitments to the neighborhood, how can we be sure that diesel buses won't remain status quo for the bus garage?

A: The world is moving towards electrification, and Metro's sustainability goals and bus fleet strategy reflects its commitment to the community. On June 24, Metro's Board of Directors approved a major change to its Metrobus fleet that supports the region's clean air goals and is consistent with the planning for the Northern Bus Garage project. Click [here](#) to access the full news release.

Q: How do bus emission numbers compare with car emissions in the area?

A: Every trip taken with Metro instead of a car reduces greenhouse gas emissions and helps to ensure cleaner air in the region. Bus trips emit approximately 25% less carbon dioxide per mile compared to a single-occupancy car and rail trips emit approximately 65% less per mile in comparison to a single-occupancy car.

Q: How can community members participate in Metro's Board meetings?

A: Metro's Board of Directors meetings are broadcast on the Metro website and YouTube channel. Public comments may be submitted through 9:00 am on the Wednesday prior to a scheduled Board meeting. There are three ways to submit a comment:

- **By phone:** Call us at 202-962-1901 to record your comment.
- **Video selfie:** Record a video message, two minutes or less, and email to speak@wmata.com.
- **Email:** Fill out the webform [here](#). Please limit your comment to 300 words or less.

7. Next Steps

The project team is awaiting the Mayor's Agent decision on the Raze Permit that will allow work to continue. Following that decision, the design must be presented again to the HPRB. Environmental investigations around contamination on and near the site will continue in June. Design is expected to be finalized in November and if all goes to plan, construction could begin in 2022. The website <https://www.wmata.com/initiatives/plans/northern-bus-garage/> will be updated throughout.

The next community meetings will be held September 21, 2021 and December 14, 2021.

8. Comments

It is believed that the above represents an accurate description of the major events that transpired at this meeting. Your notification of any errors or omissions within five (5) working days of receiving these minutes is important, as the foregoing is intended to be part of the record and is the basis upon which WMATA will proceed.

Respectfully Submitted,



Brian McMahon

HNTB Project Manager

Northern Bus Garage Reconstruction Project



**Summer Community Update
Meeting**

June 15, 2021



Meeting Etiquette

Metro wants to hear from you. Here are a few guidelines to keep this meeting productive and to maintain respect for all participants:

- You will have an opportunity to ask questions following each section of the presentation.
- To ensure we hear from as many community members as possible, please adhere to the Q&A protocol:
 -  Request to speak by typing your name in the chat
 -  Type questions directly into the chat
- When speaking:
 - Maintain a civil tone
 - Be mindful of time so that your fellow community members can share their feedback

Anyone in violation of the meeting etiquette guidelines will be muted for the duration of the meeting.

Agenda

- ☐ Introductions
- ☐ Project Overview and Updates
- ☐ Environmental Management: Overview and Status
- ☐ Construction Survey and Claims Processes
- ☐ Art in Transit: Perimeter Fencing
- ☐ Update on Metro's Zero-Emission Bus Strategy
- ☐ What to Expect in 2021

Introductions

Northern Bus Garage Reconstruction Project

Project Team

- ❑ Diana Levy, Director Capital Delivery WMATA
- ❑ Jim Ashe, Environmental Coordinator WMATA
- ❑ Kit Conway, Manager, Strategic Initiatives WMATA
- ❑ Laurent Odde, Art in Transit Manager WMATA
- ❑ Philip Sheridan, Clark Construction
- ❑ Sean Beachy, Wendel

Project Overview and Updates

Northern Bus Garage Reconstruction Project

2021 Summary of Q2 Project Events

- March 2021
 - Mayor's Agent Hearing
- May 2021
 - Meeting with DC Water
 - Post-hearing submissions filed with Mayor's Agent
- June 2021
 - Meeting with DOEE
 - Meeting with ANC Leaders
 - DDOT Public Space Committee Hearing



Agency Collaboration Since Last Meeting

Agency	Brief Purpose
DC Office of Zoning	Transitional setback, penthouses
SHPO (State Historic Preservation Office)	Follow-up from December HPRB, review of updated renderings
DDOT	Design update per Public Space Committee, loading zone, Urban Forest Division
Pepco	Location of proposed services to building
Washington Gas	Gas main extension, Service meter location
DOEE	Review of stormwater management

Mayor's Agent Hearing

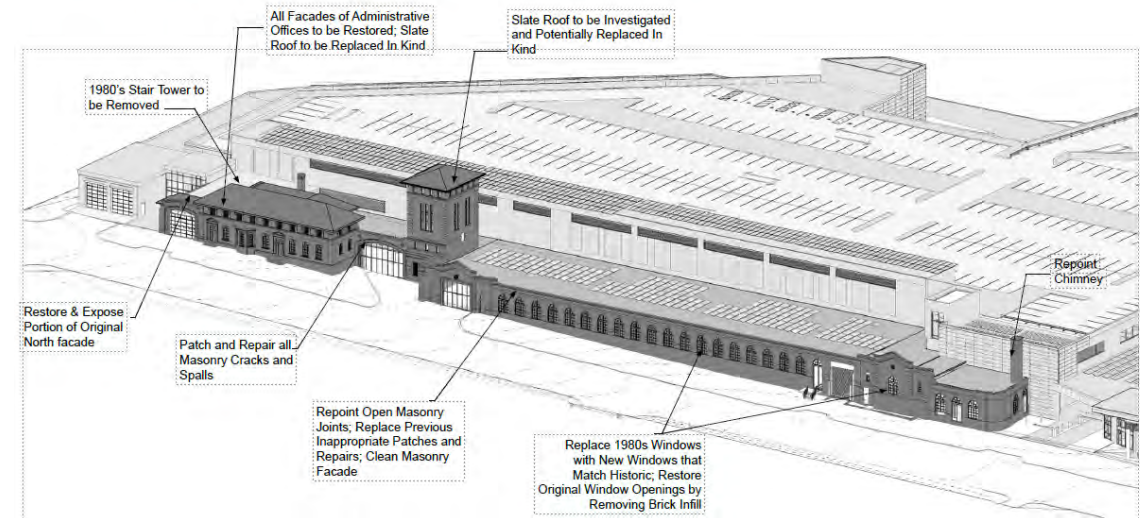
Hearing held on March 26, 2021

- WMATA witnesses provided uncontroverted testimony supporting WMATA's pending Raze Permit as necessary to allow construction of a project of special merit
- Raze permit covers limited removal of historic fabric
- Testimony and exhibits established that the project will provide significant transit and community benefits, further local land use planning goals, and preserve key historic features.
- Testimony was also offered by representatives of Northern Bus Barn Neighbors, 14th St. Uptown Business Association, 16th Street Neighbors Association, and the D.C. Historic Preservation Office

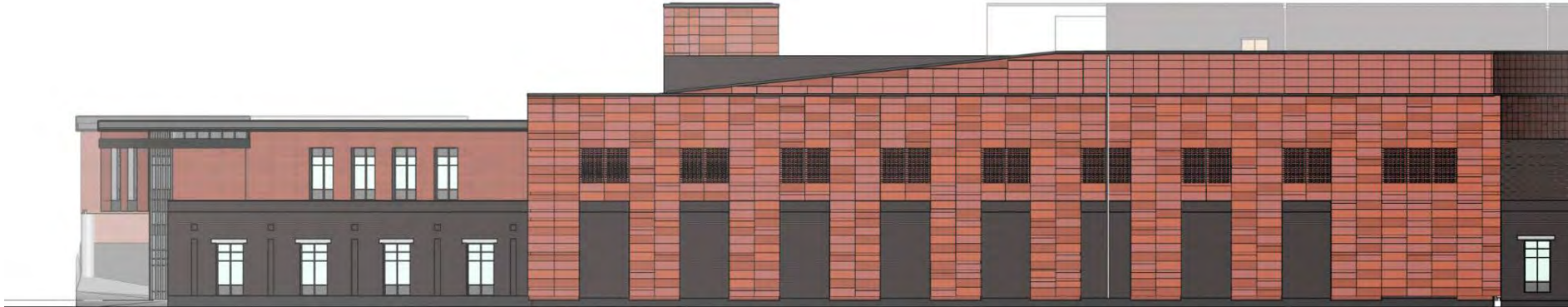
Northern Bus Garage Preservation Treatment Approach



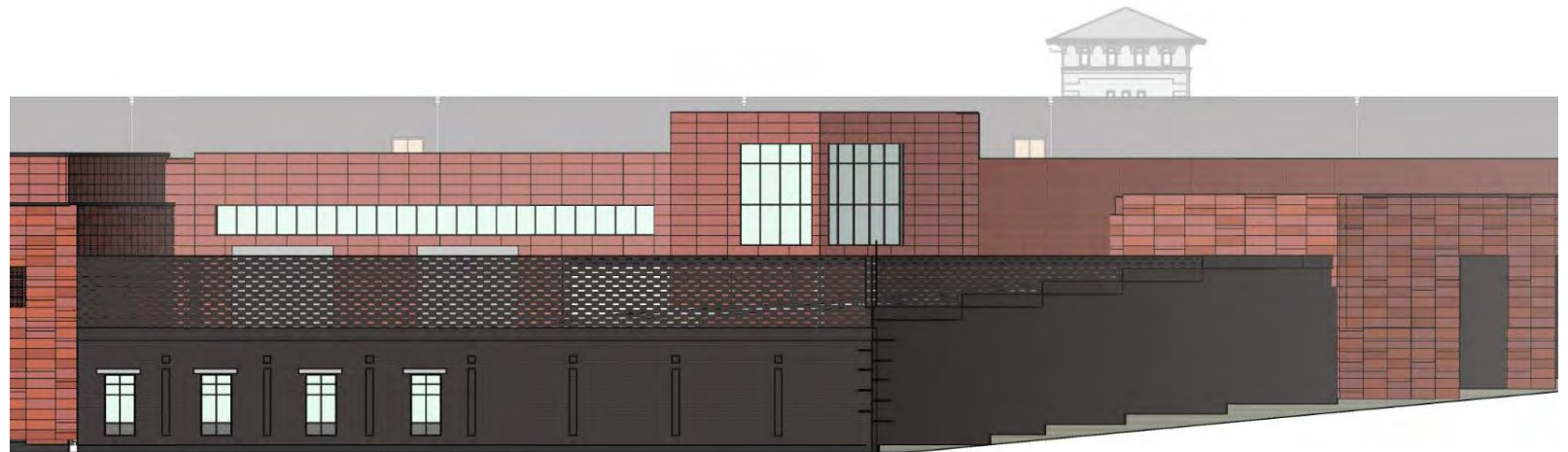
Programmatic Massing of New Construction to Historic Building



DC Historic Preservation Review Board



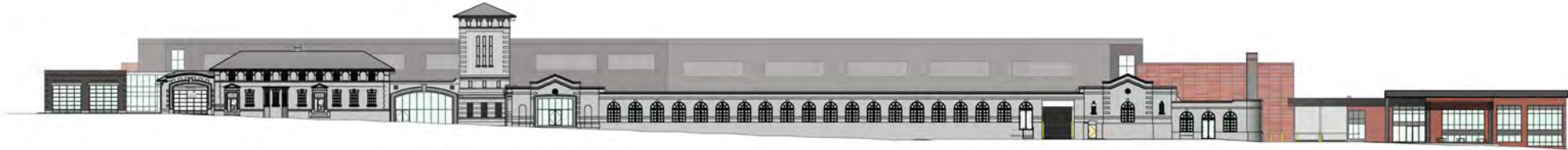
While awaiting the Mayor's Agent's determination, Metro continues to meet with representatives from the D.C. Historic Preservation Office to refine the design.



Overall Building Elevations



1 ELEVATION - OVERALL - NORTH
3/6" = 1'-0"



2 ELEVATION- OVERALL- WEST
3/6" = 1'-0"



3 ELEVATION- OVERALL- SOUTH
3/6" = 1'-0"



4 ELEVATION- OVERALL- EAST
3/6" = 1'-0"

Northern Bus Garage Reconstruction Project



VIEW 1



WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

Northern Bus Garage Reconstruction Project



VIEW 2



WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

Northern Bus Garage Reconstruction Project



VIEW 3



Northern Bus Garage Reconstruction Project



VIEW 4



WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

Northern Bus Garage Reconstruction Project



VIEW 5



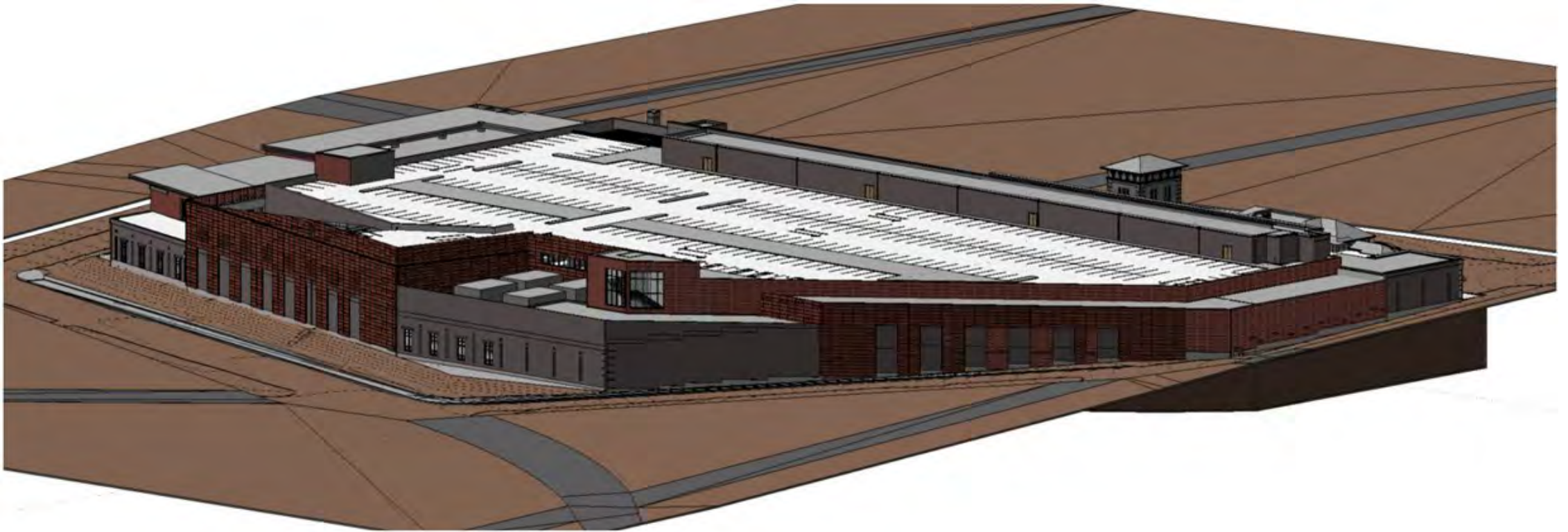
Northern Bus Garage Reconstruction Project



VIEW 6



Isometric view of the Arkansas and Iowa Avenues Façade



View from Corner of Buchanan

NOTE: THE IMAGE PROVIDES AN ADDITIONAL VIEW OF THE TOP SETBACK AND IS NOT A PHOTOREALISTIC VIEW.



WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

Design Progress Update

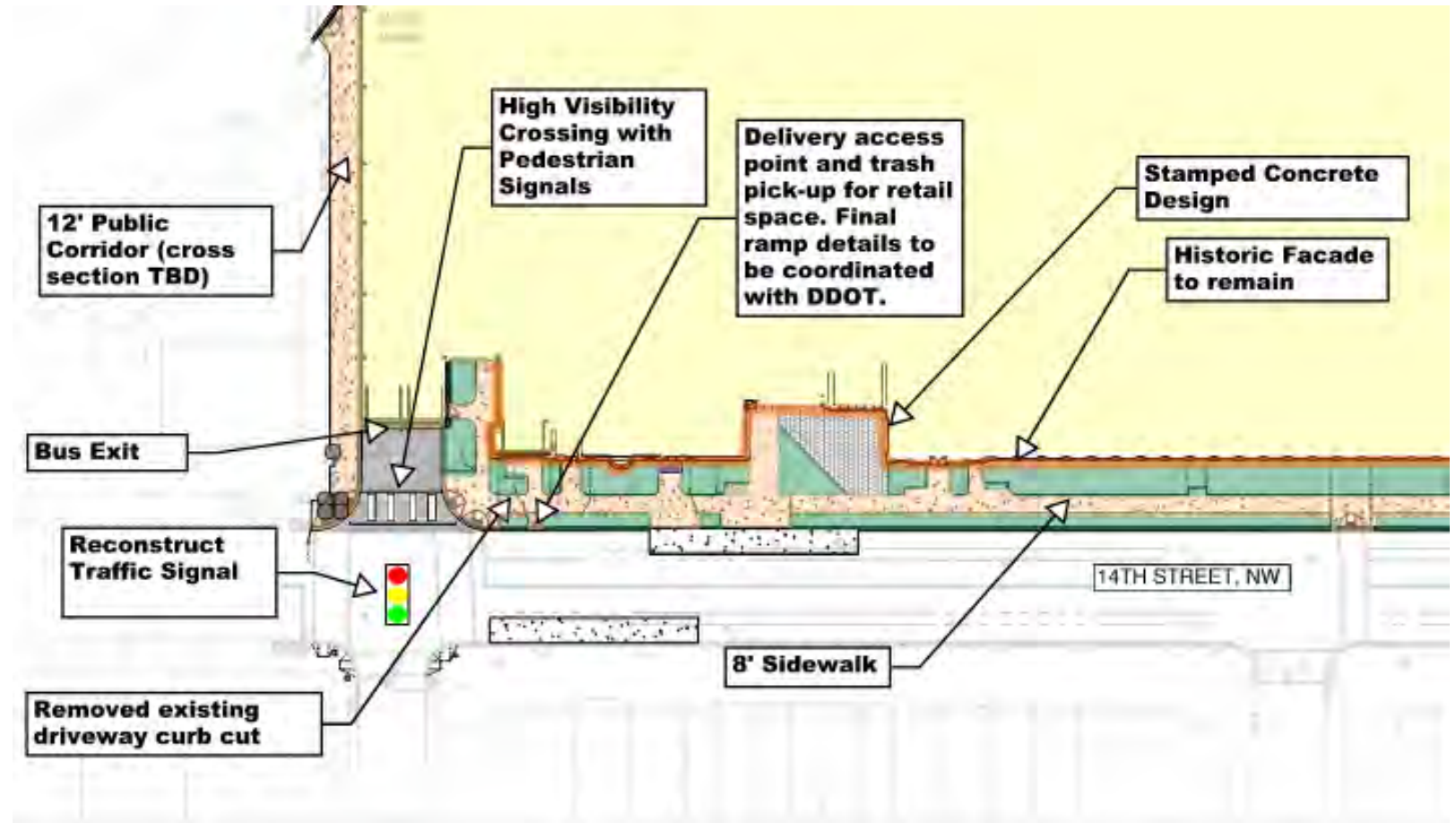
- Design Package 1 (DP1)
 - DP1 consists of civil, underground utilities and services, landscape, grading, foundation and structure
 - 75% design submitted to WMATA on April 16, 2021
 - DP1 90% submittal to WMATA is due on August 4, 2021
- Design Package 2 (DP2)
 - DP2 consists of mechanical, plumbing, electrical, building envelop, interior finishes and design
 - 75% design submittal expected on June 7, 2021
 - DP2 90% submittal expected on October 19, 2021

Target Completion of Issue For Construction (IFC) Plans:
November 2021 and February 2022, respectively

Proposed Site Plan

Improvements since last meeting:

- Articulating the historic trolley entry through hardscape design
- Refining retail delivery approach with DDOT
- Nominal adjustments to all curb cuts based on feedback received at the February Public Space Committee (PSC) hearing
- Return to June PSC hearing for final plan approval



Field Progress Update

- Historic Foundation Test Pitting Program
 - Purpose is to collect data on size and depth of the wall footings, top of rock elevation at the existing wall footings, the depth of the underground storage tank anchor slabs, and the depth and exact location of the sewer along 14th Street, which will provide us with the necessary information to finalize the bus garage design
- Caisson Load Test Program
 - Purpose is to validate the new building's foundation design by measuring the capacity of the soil and rock underneath the existing bus garage
- Work on both programs started on June 7 and is expected to be completed this month

Field Progress Update



- Shown (left) is the progress of the first test pit searching for a wall footing
- The test pitting requires us to remove a small section of the concrete slab to access the soil underneath
- The soil is then mostly hand-dug, once accessible
- All soils will be backfilled into the pits once the foundation elements are surveyed

Any Questions?

There are two ways to submit your questions



Request to speak by typing your name
in the chat



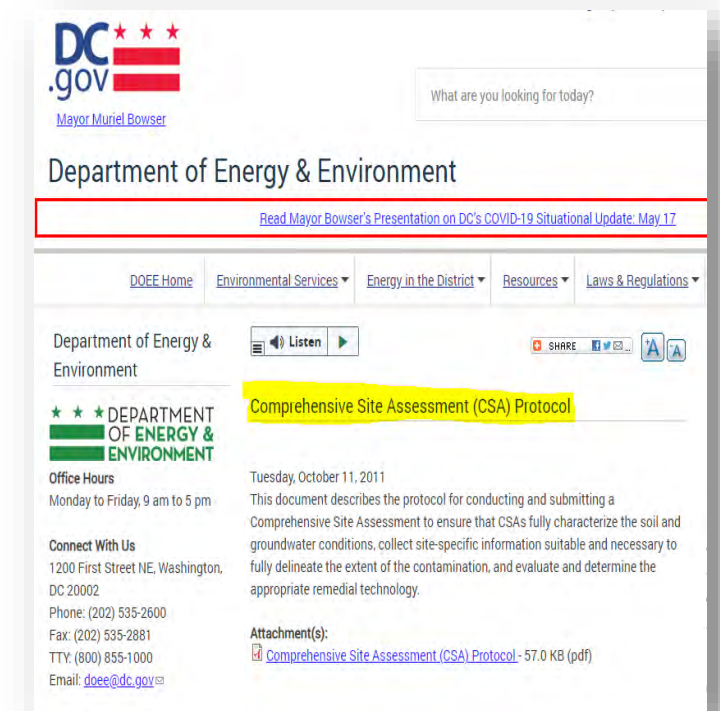
Type questions directly into the chat

Environmental Management: Overview and Status

Northern Bus Garage Reconstruction Project

DOEE Collaboration

- Comprehensive Site Assessment (CSA) Work Plan
 - Original submission February 2021
 - DOEE comments received & incorporated
 - Revised CSA report submitted in May 2021
- Revised CSA Work Plan includes workplan covering:
 - Four wells near Arkansas and Iowa Avenues
 - 18 well points (2 water samples per hole and 1-2 soil sample per hole)
 - Confirmatory sampling in excavated areas
 - Approval received June 4
- Next steps:
 - Secure permits
 - Complete investigations and provide findings to DOEE



Air Pollution Treatment Update

- WMATA & Clark performed review of MERV 14 filters versus MERV 16 filters to be used in the 14 units of Dry Scrubber Technology
- Use of MERV 16 filters, instead of MERV 14 filters as previously proposed, is achievable with several accommodations and changes to the current design
- ASHRAE estimated 95% efficiency in filtering particulate matters of all sizes with MERV 16 filters
- MERV Filters Maintenance:
 - Will be checked by monitoring pressure differences across the filters
 - Will be monitored monthly for the first six months to determine frequency of replacement, then quarterly after that

ASHRAE Standard 52.2-2017 -- Minimum Efficiency Reporting Value (MERV)

Standard 52.2 Minimum Efficiency Reporting Value (MERV)	Composite Average Particle Size Efficiency, % in Size Range, μm			Average Arrestance, %
	Range 1 0.30 to 1.0	Range 2 1.0 to 3.0	Range 3 3.0 to 10.0	
1	N/A	N/A	$E_3 < 20$	$A_{avg} < 65$
2	N/A	N/A	$E_3 < 20$	$65 \leq A_{avg}$
3	N/A	N/A	$E_3 < 20$	$70 \leq A_{avg}$
4	N/A	N/A	$E_3 < 20$	$75 \leq A_{avg}$
5	N/A	N/A	$20 \leq E_3$	N/A
6	N/A	N/A	$35 \leq E_3$	N/A
7	N/A	N/A	$50 \leq E_3$	N/A
8	N/A	$20 \leq E_2$	$70 \leq E_3$	N/A
9	N/A	$35 \leq E_2$	$75 \leq E_3$	N/A
10	N/A	$50 \leq E_2$	$80 \leq E_3$	N/A
11	$20 \leq E_1$	$65 \leq E_2$	$85 \leq E_3$	N/A
12	$35 \leq E_1$	$80 \leq E_2$	$90 \leq E_3$	N/A
13	$50 \leq E_1$	$85 \leq E_2$	$90 \leq E_3$	N/A
14	$75 \leq E_1$	$90 \leq E_2$	$95 \leq E_3$	N/A
15	$85 \leq E_1$	$90 \leq E_2$	$95 \leq E_3$	N/A
16	$95 \leq E_1$	$95 \leq E_2$	$95 \leq E_3$	N/A

Average Minimum PSE Designator	Corresponding Size Range Group, μm
E_1	0.30 to 1.0
E_2	1.0 to 3.0
E_3	3.0 to 10

Any Questions?

There are two ways to submit your questions



Request to speak by typing your name
in the chat



Type questions directly into the chat

Construction Survey and Claims Processes

Northern Bus Garage Reconstruction Project

Construction Monitoring

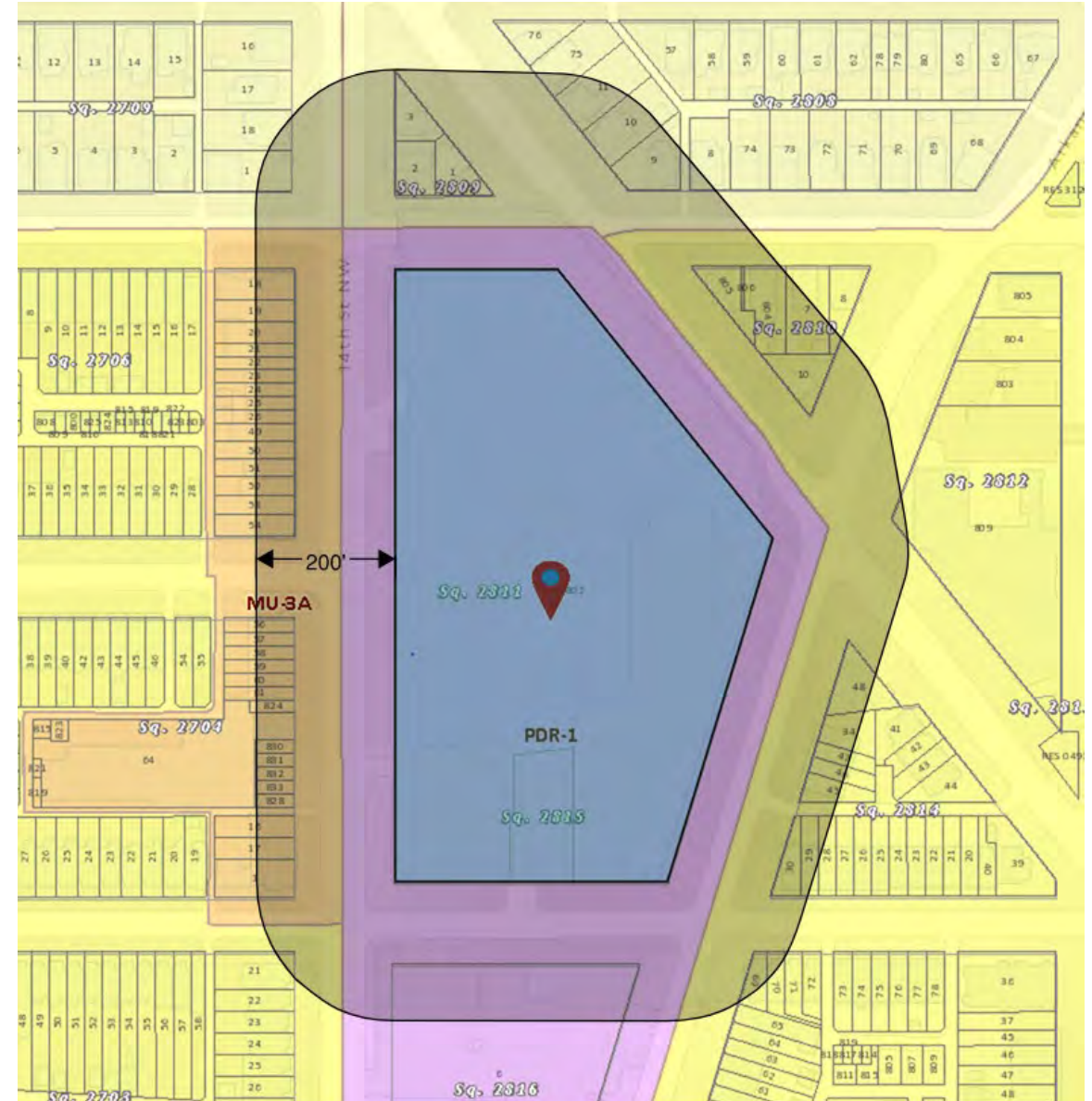
- Various instruments installed to monitor for movements as coordinated and permitted with District of Columbia agencies
 - In ground to measure movement and groundwater
 - On Adjacent Structures (with owner permission)
 - On Ground surface
 - On Utilities
- Vibration monitoring will occur at project perimeter
- Baseline readings of current background noise and vibration will be established for at least 30 days prior to the start of demolition

Pre- and Post-Construction Survey Overview

- Clark team will engage an engineering firm to conduct pre-existing condition surveys of homes and buildings in the neighborhood around the Northern Bus Garage
- These inspections will document the current interior and exterior condition of the surveyed properties and help expedite processing any future claims

Pre- and Post-Construction Surveys

- Map shows an overlay with the properties that fall within 200 ft of the proposed new bus garage



Recap: Pre- and Post-Construction Survey Process

- Surveys offered for all adjacent buildings within 200 ft of the WMATA property lines
 - Purpose is to document existing conditions of structures prior to the start of major construction
 - Baseline report prepared prior to start of demolition
 - Invite to opt into inspection program provided to property owner about 90 days prior to planned start of work
 - Property is eligible for a post-construction survey even if owner did not elect to get a pre-construction survey, though survey findings may be more limited, and damage claims maybe be more difficult absent a pre-construction survey
- Surveys performed by independent third-party engineering firm
 - A hard copy and digital copy (CD or thumb drive) is provided to the property owner via certified mail
 - Point of contact provided for property owner to discuss any questions on the survey findings

Damage Claims Process

Northern Bus Garage Reconstruction Project

Damage Claim Process

- Claim form will be available by request through the project website
 - wmata.com/NorthernBusGarage
- Clark project staff will review the claim form with property owners to make sure all required information is submitted
- Claim forms will be submitted to Clark's risk department by our safety manager
- Claims will be assigned to an adjuster by Clark's insurance company
- The insurance adjuster will contact the property owner to schedule an inspection of the reported damage

Damage Claim Process

- After inspection, the adjuster will provide a written estimate for the cost of repairs to the property owner
- The property owner may choose to get an independent opinion of cost for repairs
- Once a settlement agreement is reached between property owner and insurer, payment will be made to the property owner by the insurance company
- If the damage claim is found to not have merit, a findings letter will be prepared by the adjuster and mailed to the property owner
- There is an appeals process if the property owner disagrees with the adjuster's determination

Any Questions?

There are two ways to submit your questions



Request to speak by typing your name
in the chat



Type questions directly into the chat

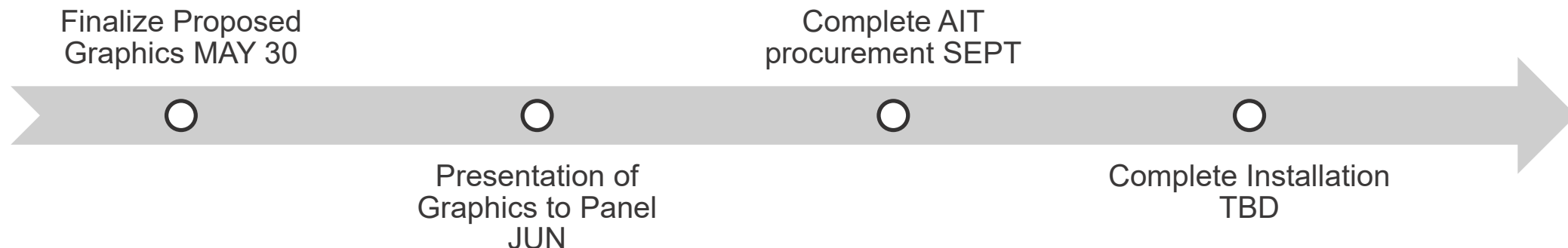
Art in Transit: Perimeter Fencing

Northern Bus Garage Reconstruction Project

Art in Transit (AIT): Perimeter Fencing

- Graphics are in the process of being completed by WMATA AIT graphic designer
- WMATA AIT & Government Relations teams will coordinate with panel of community representatives to present proposed graphics
- WMATA will launch procurement process to produce and install graphics on the perimeter fence

Interim AIT Planned Timeline CY21 (subject to change)



AIT: Perimeter Fencing Proposed Graphics

- Idea behind graphic:
 - Evolution of public transportation
 - Celebrating the neighborhood
 - Connecting the neighborhood
- Social media moment



Graphics are drafts and for preview purposes only

Any Questions?

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Update on Metro's Zero-Emission Bus Strategy

Northern Bus Garage Reconstruction Project

Metrobus Fleet Strategy Key Questions



1. **What level of service** does Metro expect to supply in the future?
2. **How many buses** should Metro operate to meet demand and service requirements?
3. **What types of buses** should Metro operate?
4. **How will Metro's maintenance facilities and operations** meet evolving fleet needs?



Why Consider Electric Buses?

Benefits for regional air quality, customer experience



Cleaner air, reduced greenhouse gas and tailpipe emissions



Quieter vehicles, less vibration, increased passenger comfort



Decreased use of fossil fuels, reduced fuel costs

Local Air Quality Context

Metrobus fleet can help drive regional air quality improvements

The Metropolitan Washington Council of Governments (MWCOG) identifies ground level **ozone** and **particulate matter** as the two most important pollutants harmful to health in the region

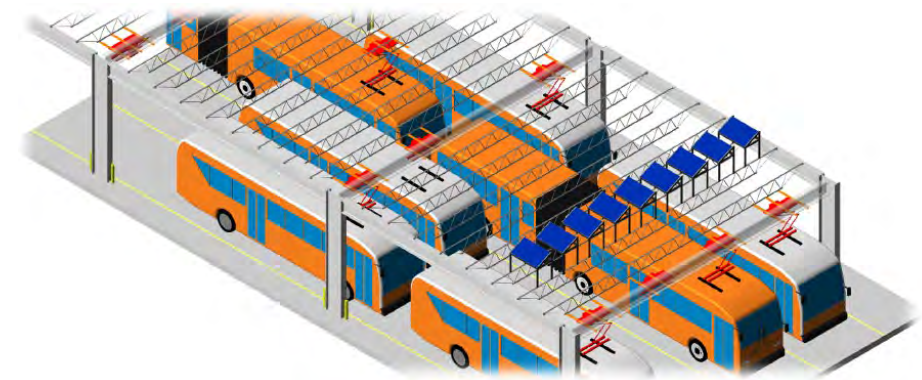
Ozone is formed by interaction between nitrogen oxides (NOx) and volatile organic compounds (VOC)

Region not meeting standards for ozone, is meeting standards for particulate matter with occasional exceedance days

Other pollutants tracked include carbon monoxide, for which region meets all standards

Electric Buses: Industry-wide momentum, varied approaches to adoption

- Of ~55,000 U.S. transit buses: approximately 29,000 diesel, 12,500 CNG, 9,000 diesel-electric hybrid, 3,600 biodiesel, 600 electric trolleybuses, **500 battery-electric buses** with an additional **500 additional battery-electric bus orders pending**
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- Peer approaches include
 - Full commitment to 100% zero-emission fleet, infrastructure support
 - Test deployments to evaluate technology in operation
 - Wait-and-see approach as technologies mature



LA Metro Bus Division Overhead Charging Concept

Current and Upcoming Electric Bus Activities

- **Electric Bus Test & Evaluation**

- Pilot program operating out of Shepherd Parkway to include deployment, testing and evaluation of ~10 standard-length electric buses and ~2 articulated electric buses.
- Project work is ongoing, with bus deliveries expected in early FY2023 and project closeout completed by mid-FY2024.

- **Continued Coordination with Electric Utilities**

- Staff working with local electric utilities to define future fleet electrification requirements and outline requirements for successful integration with grid infrastructure.

- **Evaluation of Additional Funding Sources**

- Staff reviewing potential opportunities for funding support of electric bus technology adoption, including federal programs and grants.

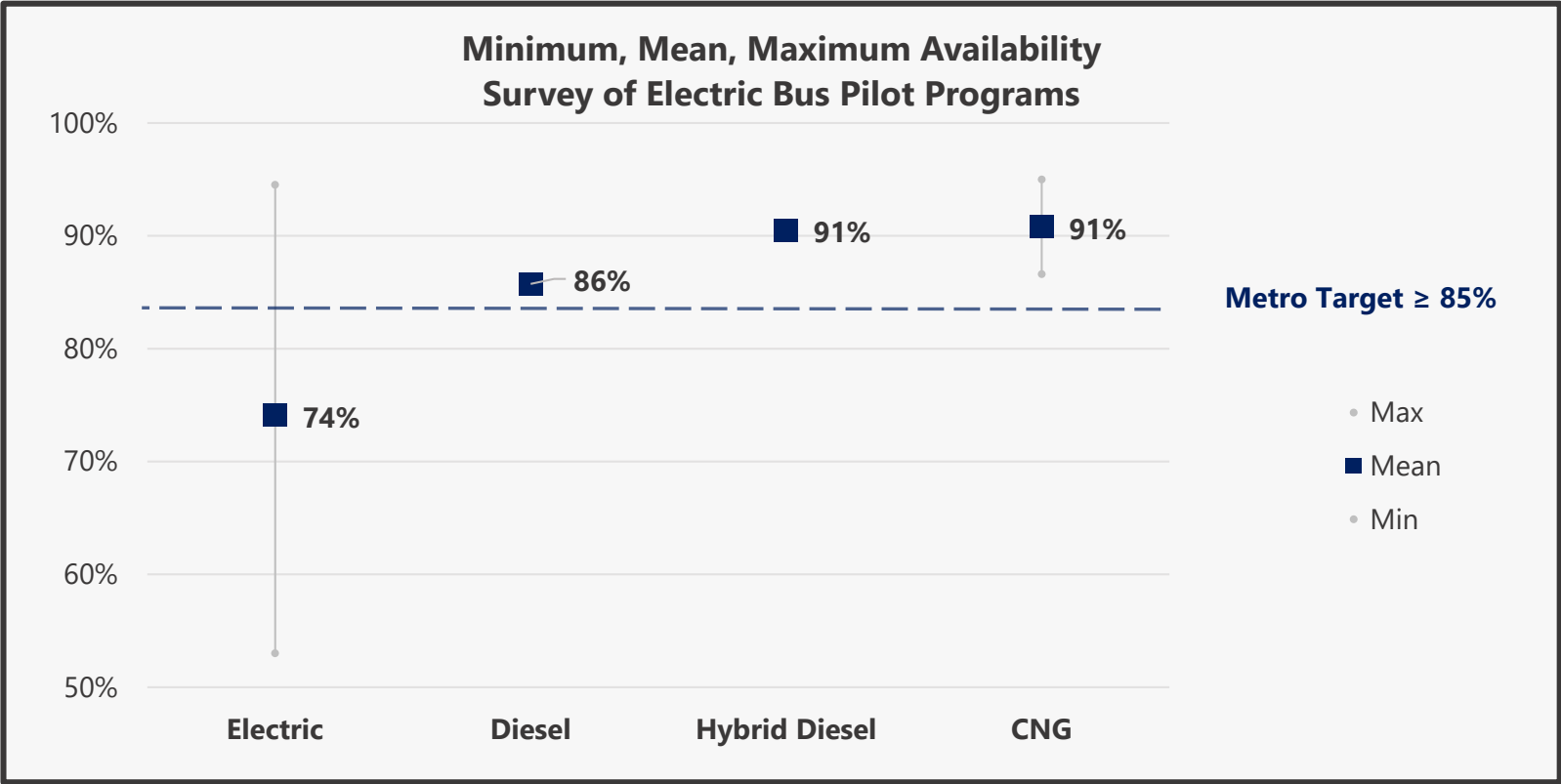


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 - Development of Metro's next five-year bus procurement contract, including vehicle specifications.
 - Initial procurement development is ongoing, with issuance of request for proposals expected in FY2022. Contract bus deliveries expected to begin in FY2024.
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 - Expansion of staff support required to manage program associated with fleet electrification. Hiring activities underway.
- **Planning and Capital Project Development for Garage Electrification**
 - Development and evaluation of capital projects to expand Metro capacity to support, maintain, charge and store electric buses. Identification of sequencing and timing of garage conversion to support future fleet needs.
 - **Exploration of Potential Hydrogen Fuel Cell Bus Test and Evaluation**
 - Staff to review potential program structure, implementation options and funding sources for test and evaluation of hydrogen fuel cell bus technologies.

Battery Electric Bus Availability, Survey of Pilots

Electric buses have not yet demonstrated consistent reliability on par with conventional vehicles



Improvements expected as technologies scale, market commitments shift to electric buses and manufacturers respond






Survey of publicly available industry test and evaluation data
5 manufacturers (4 electric), 96 buses (49 electric), 6 peer agencies



Metro Advancing Electric Bus Plans, Monitoring Technology

Expectation is electric buses will eventually be capable of 1-for-1 replacement of conventional buses

Every year, Metro's bus fleet covers 50 million miles and delivers 3.7 million hours of service

Performance Factor		Present	Target
	Miles/hours of service	Limited demonstration data suggests ~ 15,000-20,000 miles/year	On par with conventional vehicles ~ 30,000 miles/year
	Availability	Demonstrated availability averages ~ 75%	On par with conventional vehicles ~ Available 85% of days
	Reliability	Limited demonstration data suggests ~ 2,500-5,000 miles between failures	On par with conventional vehicles, Metro target ~ 7,000 miles between failures
	Travel range	In ideal operating conditions ~ 150 miles	On par with conventional vehicles ~ 250+ miles
	Useful life	Useful life assumption of 12 years	On par with conventional vehicles 15 years

Upcoming Electric Bus Test and Evaluation will provide data and experience with electric bus performance in Metro operating conditions

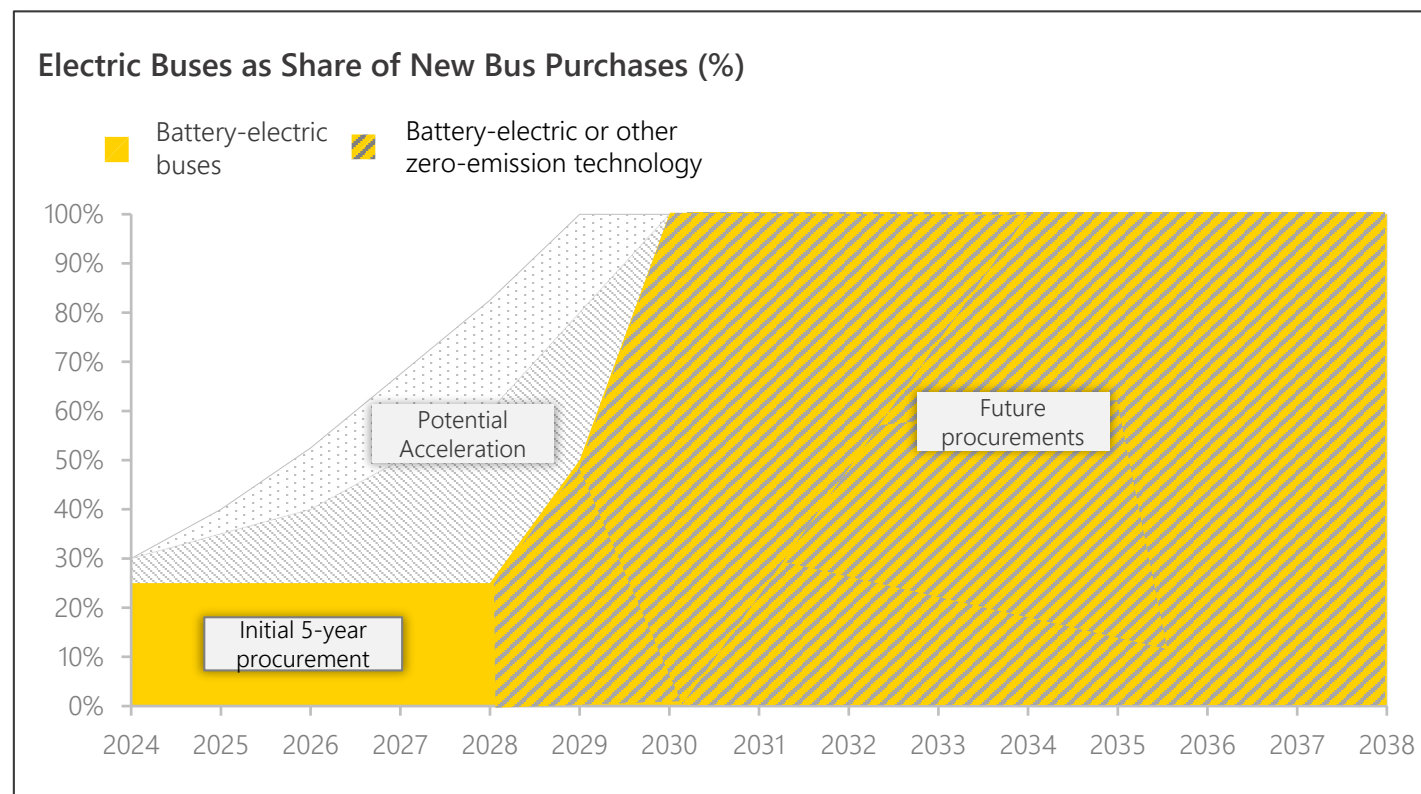
Draft Strategy: Metrobus Fleet Summary

- **Begin adoption of electric buses**, starting with next bus procurement, and transition new bus procurement to 100% electric or other zero-emission technologies by 2030, fleet fully zero-emission by 2045.
- Maintain **steady state** fleet size of approximately 1,593 buses, procuring 100 new vehicles per year.
- **Articulated 60-foot buses**: Grow share of overall bus fleet from current **4% to 12%**, or 180 buses, to address crowding and improve capacity on high ridership corridors.
- **Spare ratio of 19.5%**, changed from current 18.5%, to support bus technology transition, increase in articulated buses, reduced garage and fleet flexibility, and increased capital program support needs (e.g., Platform Improvement Project).

A fleet's **spare ratio** is defined as the number of **spare vehicles** (extra buses in the fleet for maintenance and training purposes) **divided by the number of vehicles required for annual maximum service** (running service at the busiest time on the busiest day).

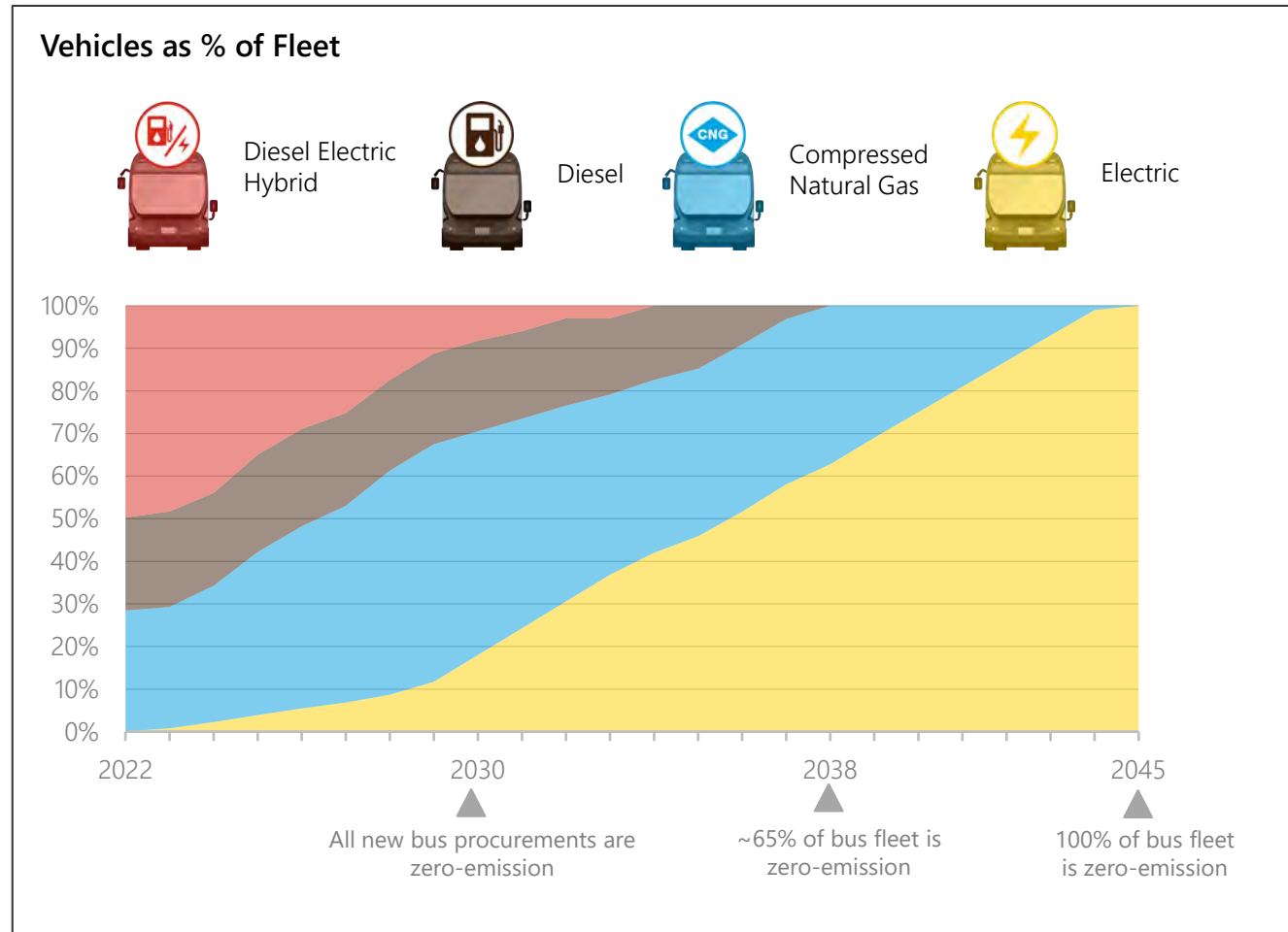
Spare ratios are expressed as a percentage. If a fleet had **100 vehicles** required for service and **20 spares**, the total fleet is 120 buses and has a **spare ratio of 20%**.

Draft Strategy: Bus Procurement



- Draft Bus Fleet Strategy contemplates **phased approach** to electric bus adoption
 - Purchase only **lower-emission and electric buses** in next bus procurement
 - Transition to **100% zero-emission bus purchases by 2030**
 - Fleet **100% zero-emission by 2045**
- Draft Strategy weighs flexibility and adaptability with the potential for faster adoption of electric or other zero-emission buses if:
 - 1-for-1 replacement is possible sooner
 - More funding is available
 - Facility capacity and infrastructure improvements are realized more quickly

Draft Strategy: Fuel Mix Implications



- **Flexibility and adaptability** considered in draft strategy, especially as technologies emerge and develop
- Draft target of 100% of new bus procurements to be **zero-emission by 2030**, **~65% zero-emission fleet by 2038**, **100% zero-emission fleet by 2045**
- Hydrogen fuel cell and other zero-emission bus types considered and evaluated in future

Draft Strategy: Electric Bus Support, Facility Requirements

Conversion of Metro facilities to support electric buses requires investment

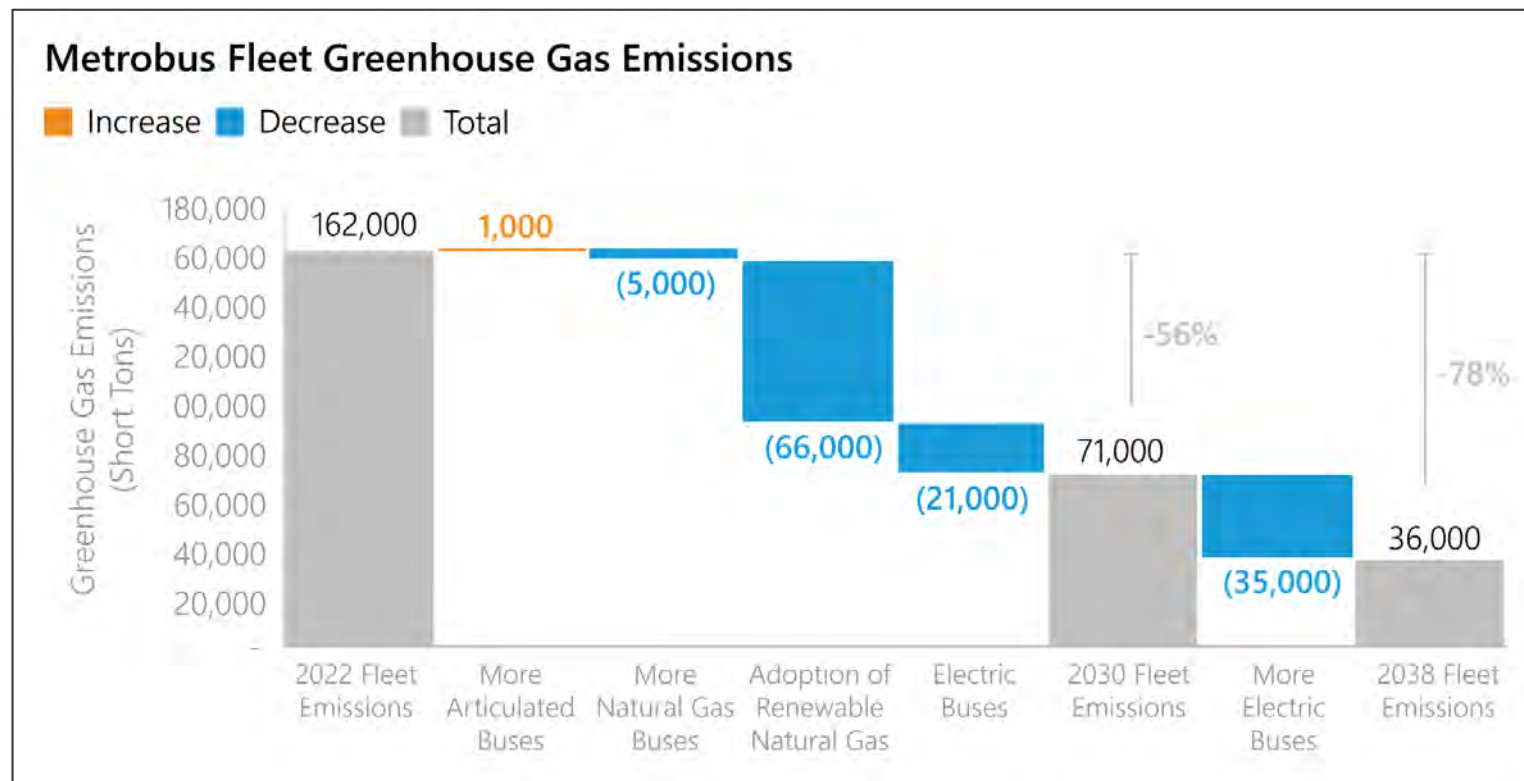
- **Charging equipment:** Chargers (plug-in, pantograph, etc.), conduits, transformers and other equipment must be installed in each garage offering electric bus support.
 - Potential exploration of in-route charging infrastructure, depending on deployment factors and fleet needs
- **Garage configuration:** Ceiling height, parking, and maintenance area dimensions and layouts likely to impact support for new bus technology.
- **Workforce opportunities and collaboration with labor:** New vehicle technologies will require new maintenance skillsets and training protocols, offer new skills and job training opportunities for workforce in the region.
- **Parts and materials storage:** New bus technology requires new parts inventories and other supporting materials and equipment.
- **Operational and safety considerations:** Time required for charging, operator role in bus charging likely to impact operations and require planning and review. Further modifications expected to ensure facility safety.

Facilities are the critical path to transition
Some factors within Metro's control, others to require regional coordination and support



Conceptual design of Division Charging Infrastructure
Source: LA Metro, ZEBGO December 2019

Draft Strategy: Emissions Implications, Greenhouse Gases



Source: EPA bus emissions data and 2020 Department of Energy Argonne National Laboratory model.

- Every trip taken with Metro instead of a car reduces the region's greenhouse gas emissions; **lower-emission vehicles provide additional benefit**
- Addition of **electric buses**, expansion of **CNG fleet**, adoption of **renewable natural gas** drive greenhouse gas emission reductions
- Estimated **~56% reduction** in annual emissions by 2030, **~78% reduction** by 2038

Metrobus Fleet Strategy Next Steps

- Metro staff presented draft Metrobus fleet strategy to Board of Directors on June 10, 2021 and recommended Board adoption of zero-emission vehicle goals:
 - Purchase only **lower-emission and electric buses** in next bus vehicle procurement
 - Transition to **100% zero-emission bus purchases by 2030**
 - **100% zero-emission bus fleet by 2045**
- Board currently considering proposed zero-emission vehicle goals



Art in Transit
New Leaf, 2006
Lisa Scheer

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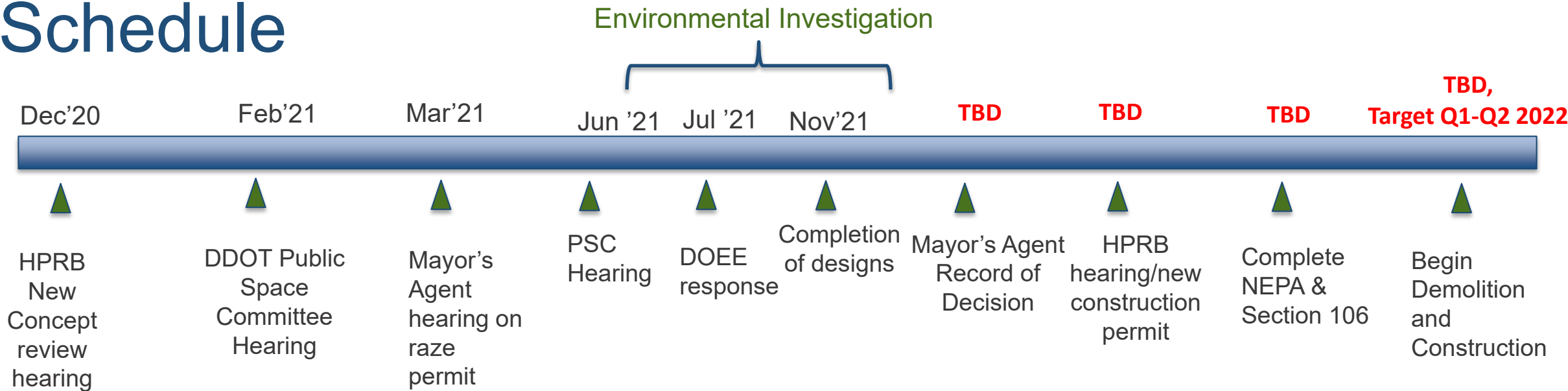


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What to Expect in 2021

Northern Bus Garage Reconstruction Project

Schedule



Mayor's Agent clearance of Raze Permit, NEPA review, and Section 106 process must be received/completed before project can begin demolition/construction



Upcoming Community Engagement Meetings



Fall
*Sept. 21, 2021



Winter
*Dec. 14, 2021

- Updates posted to wmata.com/NorthernBusGarage and shared via email
- Email MCAP_NBG_Reconstruction_Project@wmata.com to join the project's community contact list or request additional information

****Dates may be subject to change***

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Northern Bus Garage Reconstruction Project



**Summer Community Update
Meeting**

June 15, 2021



Meeting Etiquette

Metro wants to hear from you. Here are a few guidelines to keep this meeting productive and to maintain respect for all participants:

- You will have an opportunity to ask questions following each section of the presentation.
- To ensure we hear from as many community members as possible, please adhere to the Q&A protocol:
 -  Request to speak by typing your name in the chat
 -  Type questions directly into the chat
- When speaking:
 - Maintain a civil tone
 - Be mindful of time so that your fellow community members can share their feedback

Anyone in violation of the meeting etiquette guidelines will be muted for the duration of the meeting.

Agenda

- ❑ Introductions
- ❑ Project Overview and Updates
- ❑ Environmental Management: Overview and Status
- ❑ Construction Survey and Claims Processes
- ❑ Art in Transit: Perimeter Fencing
- ❑ Update on Metro's Zero-Emission Bus Strategy
- ❑ What to Expect in 2021

Introductions

Northern Bus Garage Reconstruction Project

Project Team

- ❑ Diana Levy, Director Capital Delivery WMATA
- ❑ Jim Ashe, Environmental Coordinator WMATA
- ❑ Kit Conway, Manager, Strategic Initiatives WMATA
- ❑ Laurent Odde, Art in Transit Manager WMATA
- ❑ Philip Sheridan, Clark Construction
- ❑ Sean Beachy, Wendel

Project Overview and Updates

Northern Bus Garage Reconstruction Project

2021 Summary of Q2 Project Events

- March 2021
 - Mayor's Agent Hearing
- May 2021
 - Meeting with DC Water
 - Post-hearing submissions filed with Mayor's Agent
- June 2021
 - Meeting with DOEE
 - Meeting with ANC Leaders
 - DDOT Public Space Committee Hearing



Agency Collaboration Since Last Meeting

Agency	Brief Purpose
DC Office of Zoning	Transitional setback, penthouses
SHPO (State Historic Preservation Office)	Follow-up from December HPRB, review of updated renderings
DDOT	Design update per Public Space Committee, loading zone, Urban Forest Division
Pepco	Location of proposed services to building
Washington Gas	Gas main extension, Service meter location
DOEE	Review of stormwater management

Mayor's Agent Hearing

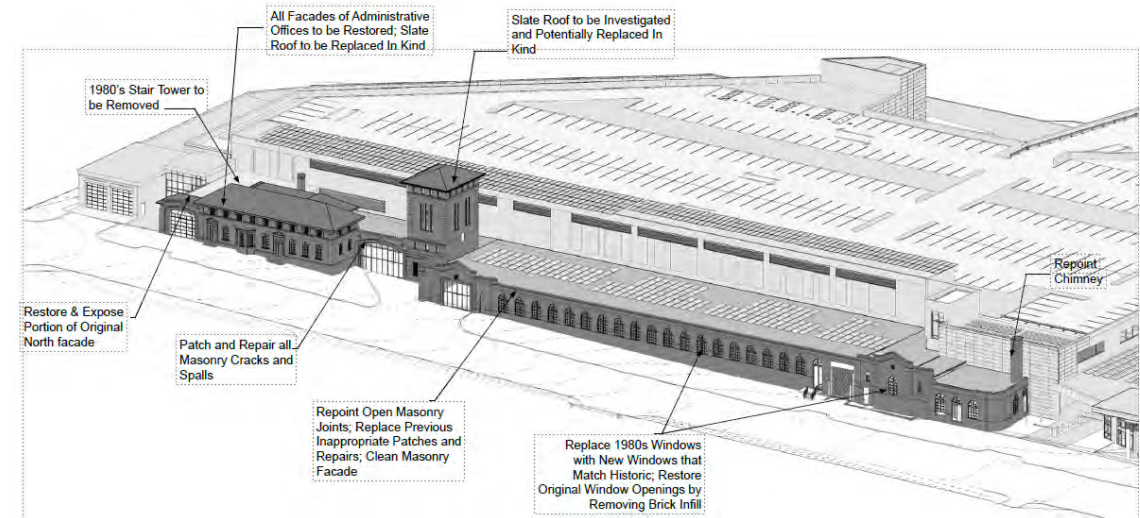
Hearing held on March 26, 2021

- WMATA witnesses provided uncontroverted testimony supporting WMATA's pending Raze Permit as necessary to allow construction of a project of special merit
- Raze permit covers limited removal of historic fabric
- Testimony and exhibits established that the project will provide significant transit and community benefits, further local land use planning goals, and preserve key historic features.
- Testimony was also offered by representatives of Northern Bus Barn Neighbors, 14th St. Uptown Business Association, 16th Street Neighbors Association, and the D.C. Historic Preservation Office

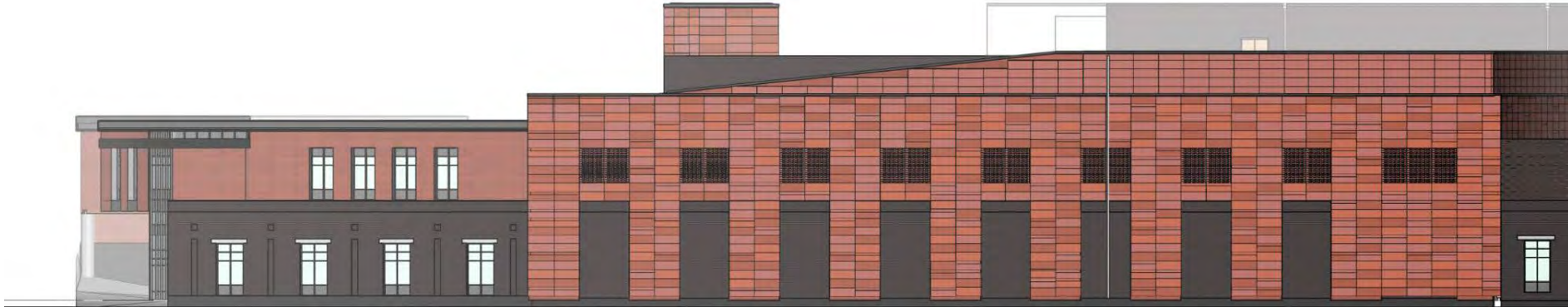
Northern Bus Garage Preservation Treatment Approach



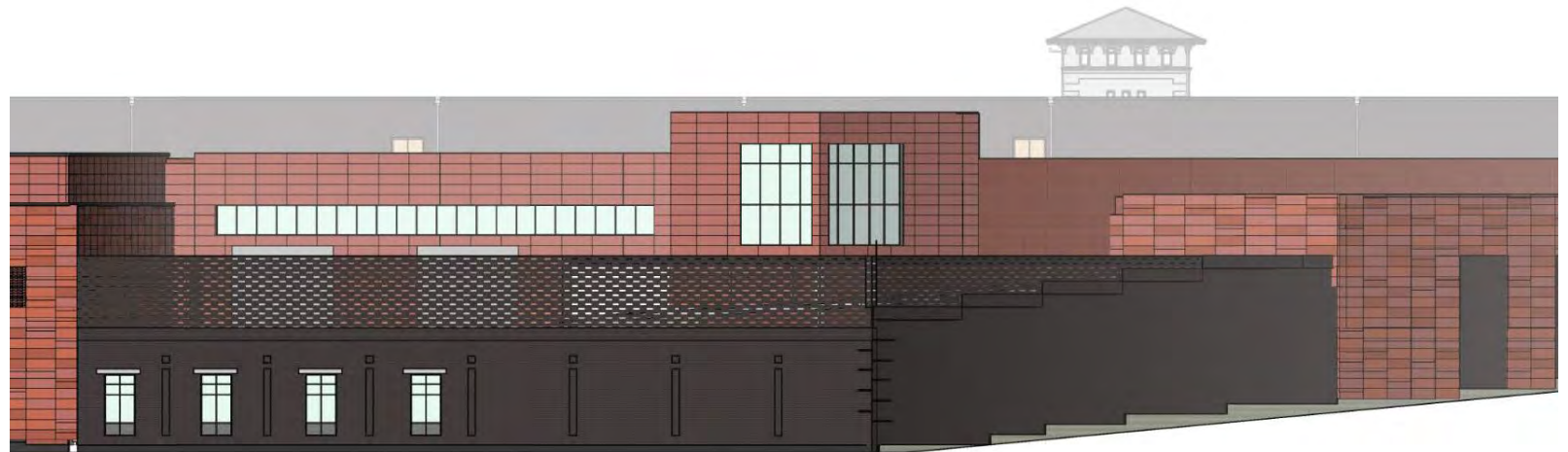
Programmatic Massing of New Construction to Historic Building



DC Historic Preservation Review Board



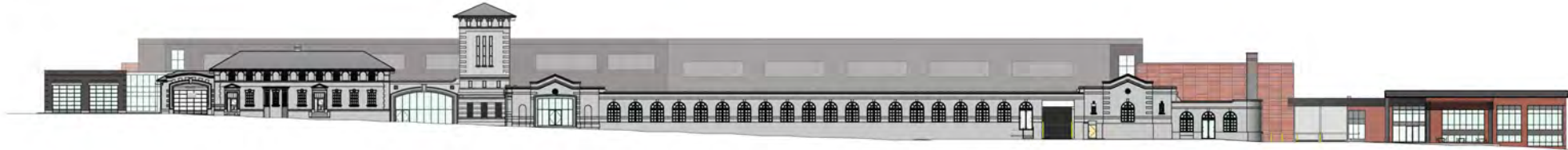
While awaiting the Mayor's Agent's determination, Metro continues to meet with representatives from the D.C. Historic Preservation Office to refine the design.



Overall Building Elevations



1 ELEVATION - OVERALL - NORTH
3/8" = 1'-0"



2 ELEVATION - OVERALL - WEST
3/8" = 1'-0"



3 ELEVATION - OVERALL - SOUTH
3/8" = 1'-0"



4 ELEVATION - OVERALL - EAST
3/8" = 1'-0"

Northern Bus Garage Reconstruction Project



VIEW 1



WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

Northern Bus Garage Reconstruction Project



VIEW 2



WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

Northern Bus Garage Reconstruction Project



VIEW 3



Northern Bus Garage Reconstruction Project



VIEW 4



WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

Northern Bus Garage Reconstruction Project



VIEW 5



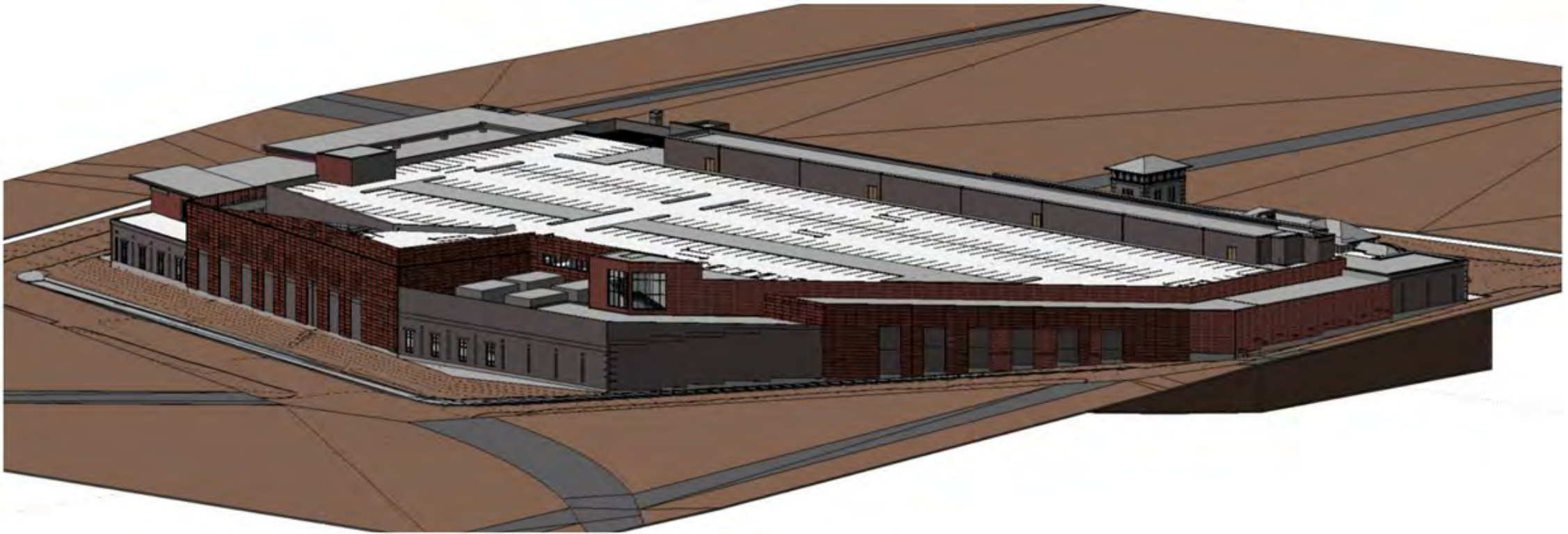
Northern Bus Garage Reconstruction Project



VIEW 6



Isometric view of the Arkansas and Iowa Avenues Façade



View from Corner of Buchanan

NOTE: THE IMAGE PROVIDES AN ADDITIONAL VIEW OF THE TOP SETBACK AND IS NOT A PHOTOREALISTIC VIEW.



WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

Design Progress Update

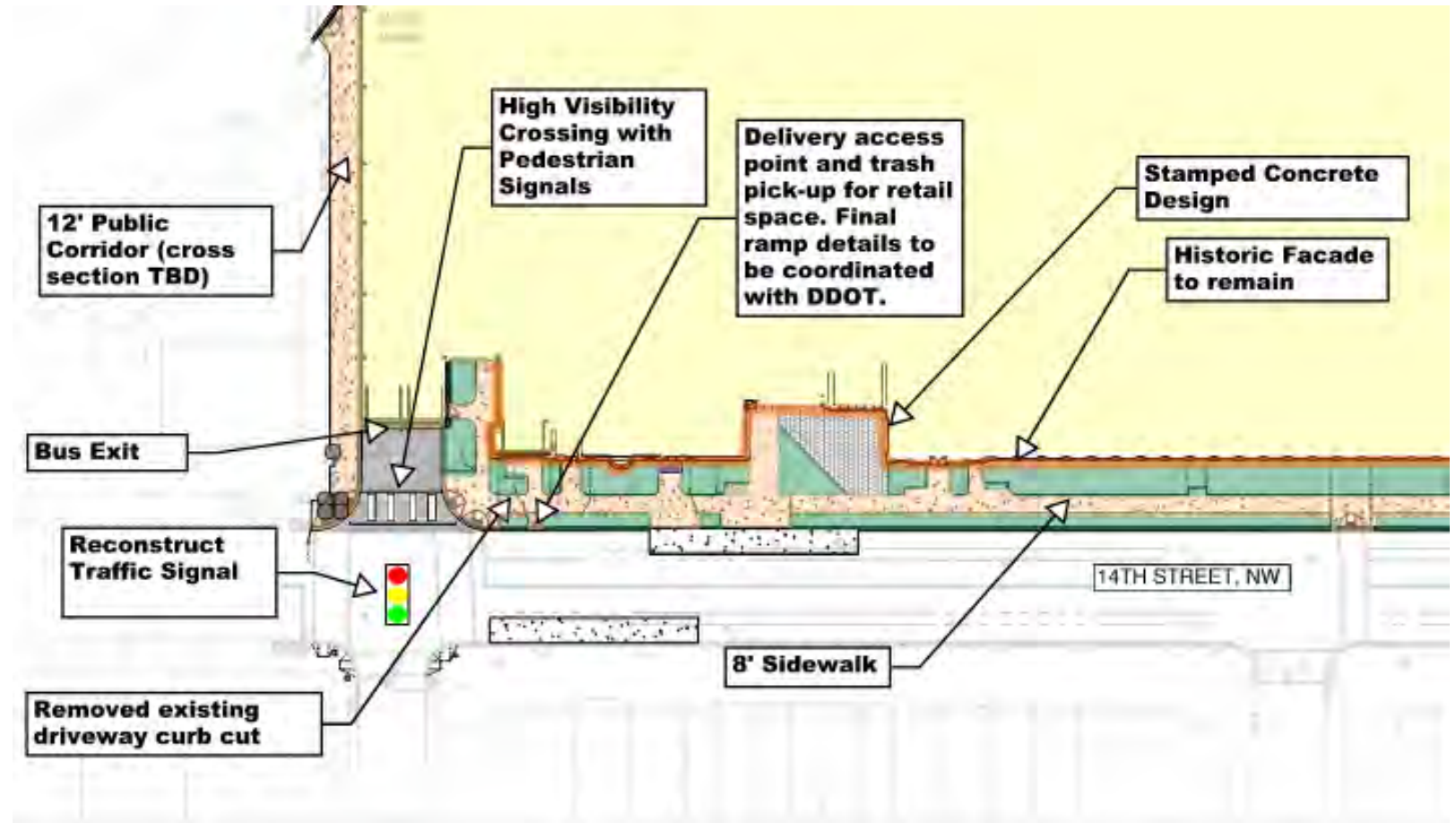
- Design Package 1 (DP1)
 - DP1 consists of civil, underground utilities and services, landscape, grading, foundation and structure
 - 75% design submitted to WMATA on April 16, 2021
 - DP1 90% submittal to WMATA is due on August 4, 2021
- Design Package 2 (DP2)
 - DP2 consists of mechanical, plumbing, electrical, building envelop, interior finishes and design
 - 75% design submittal expected on June 7, 2021
 - DP2 90% submittal expected on October 19, 2021

Target Completion of Issue For Construction (IFC) Plans:
November 2021 and February 2022, respectively

Proposed Site Plan

Improvements since last meeting:

- Articulating the historic trolley entry through hardscape design
- Refining retail delivery approach with DDOT
- Nominal adjustments to all curb cuts based on feedback received at the February Public Space Committee (PSC) hearing
- Return to June PSC hearing for final plan approval



Field Progress Update

- Historic Foundation Test Pitting Program
 - Purpose is to collect data on size and depth of the wall footings, top of rock elevation at the existing wall footings, the depth of the underground storage tank anchor slabs, and the depth and exact location of the sewer along 14th Street, which will provide us with the necessary information to finalize the bus garage design
- Caisson Load Test Program
 - Purpose is to validate the new building's foundation design by measuring the capacity of the soil and rock underneath the existing bus garage
- Work on both programs started on June 7 and is expected to be completed this month

Field Progress Update



- Shown (left) is the progress of the first test pit searching for a wall footing
- The test pitting requires us to remove a small section of the concrete slab to access the soil underneath
- The soil is then mostly hand-dug, once accessible
- All soils will be backfilled into the pits once the foundation elements are surveyed

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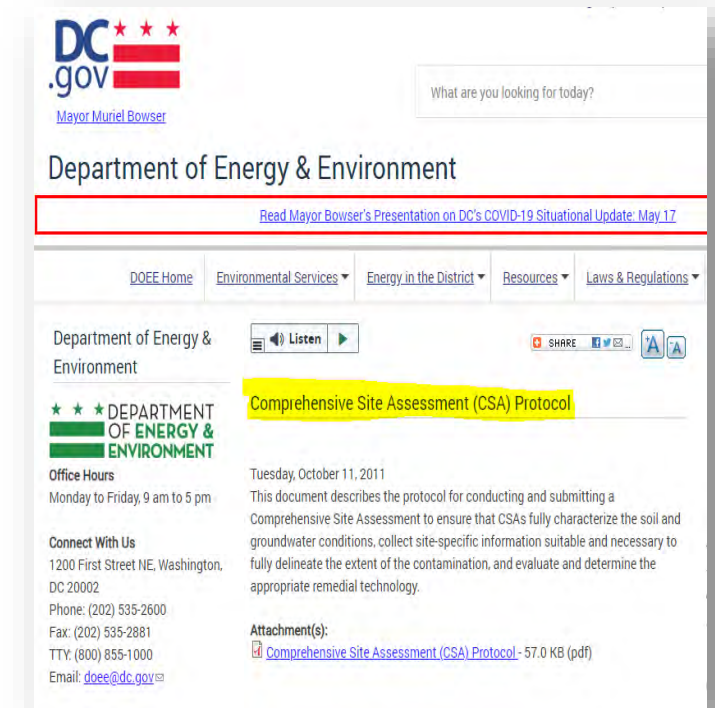
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Environmental Management: Overview and Status

Northern Bus Garage Reconstruction Project

DOEE Collaboration

- Comprehensive Site Assessment (CSA) Work Plan
 - Original submission February 2021
 - DOEE comments received & incorporated
 - Revised CSA report submitted in May 2021
- Revised CSA Work Plan includes workplan covering:
 - Four wells near Arkansas and Iowa Avenues
 - 18 well points (2 water samples per hole and 1-2 soil sample per hole)
 - Confirmatory sampling in excavated areas
 - Approval received June 4
- Next steps:
 - Secure permits
 - Complete investigations and provide findings to DOEE



Air Pollution Treatment Update

- WMATA & Clark performed review of MERV 14 filters versus MERV 16 filters to be used in the 14 units of Dry Scrubber Technology
- Use of MERV 16 filters, instead of MERV 14 filters as previously proposed, is achievable with several accommodations and changes to the current design
- ASHRAE estimated 95% efficiency in filtering particulate matters of all sizes with MERV 16 filters
- MERV Filters Maintenance:
 - Will be checked by monitoring pressure differences across the filters
 - Will be monitored monthly for the first six months to determine frequency of replacement, then quarterly after that

ASHRAE Standard 52.2-2017 -- Minimum Efficiency Reporting Value (MERV)

Standard 52.2 Minimum Efficiency Reporting Value (MERV)	Composite Average Particle Size Efficiency, % in Size Range, μm			Average Arrestance, %
	Range 1 0.30 to 1.0	Range 2 1.0 to 3.0	Range 3 3.0 to 10.0	
1	N/A	N/A	$E_3 < 20$	$A_{avg} < 65$
2	N/A	N/A	$E_3 < 20$	$65 \leq A_{avg}$
3	N/A	N/A	$E_3 < 20$	$70 \leq A_{avg}$
4	N/A	N/A	$E_3 < 20$	$75 \leq A_{avg}$
5	N/A	N/A	$20 \leq E_3$	N/A
6	N/A	N/A	$35 \leq E_3$	N/A
7	N/A	N/A	$50 \leq E_3$	N/A
8	N/A	$20 \leq E_2$	$70 \leq E_3$	N/A
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10	N/A	$50 \leq E_2$	$80 \leq E_3$	N/A
11	$20 \leq E_1$	$65 \leq E_2$	$85 \leq E_3$	N/A
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13	$50 \leq E_1$	$85 \leq E_2$	$90 \leq E_3$	N/A
14	$75 \leq E_1$	$90 \leq E_2$	$95 \leq E_3$	N/A
15	$85 \leq E_1$	$90 \leq E_2$	$95 \leq E_3$	N/A
16	$95 \leq E_1$	$95 \leq E_2$	$95 \leq E_3$	N/A

Average Minimum PSE Designator	Corresponding Size Range Group, μm
E_1	0.30 to 1.0
E_2	1.0 to 3.0
E_3	3.0 to 10

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Construction Survey and Claims Processes

Northern Bus Garage Reconstruction Project

Construction Monitoring

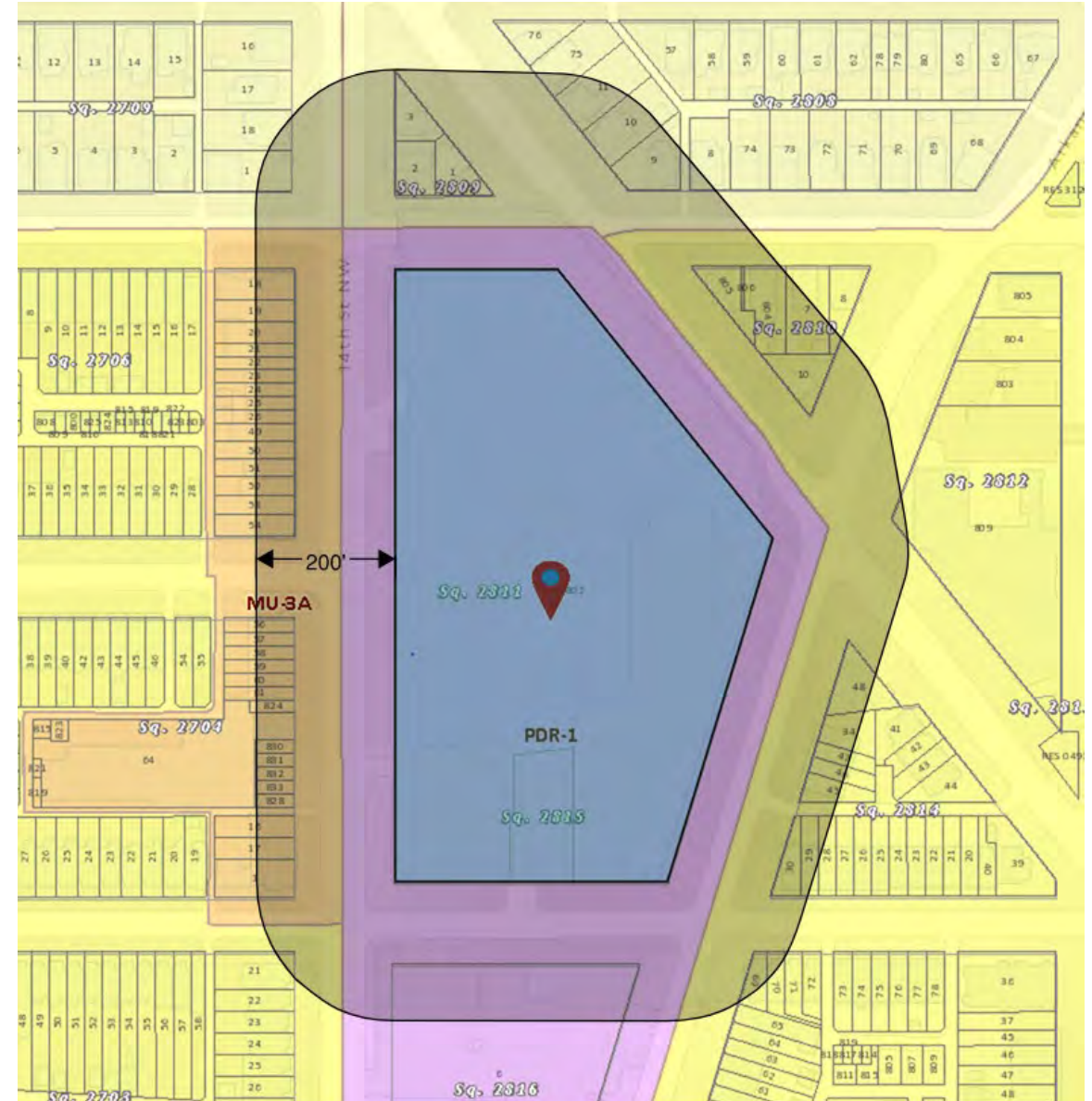
- Various instruments installed to monitor for movements as coordinated and permitted with District of Columbia agencies
 - In ground to measure movement and groundwater
 - On Adjacent Structures (with owner permission)
 - On Ground surface
 - On Utilities
- Vibration monitoring will occur at project perimeter
- Baseline readings of current background noise and vibration will be established for at least 30 days prior to the start of demolition

Pre- and Post-Construction Survey Overview

- Clark team will engage an engineering firm to conduct pre-existing condition surveys of homes and buildings in the neighborhood around the Northern Bus Garage
- These inspections will document the current interior and exterior condition of the surveyed properties and help expedite processing any future claims

Pre- and Post- Construction Surveys

- Map shows an overlay with the properties that fall within 200 ft of the proposed new bus garage



Recap: Pre- and Post-Construction Survey Process

- Surveys offered for all adjacent buildings within 200 ft of the WMATA property lines
 - Purpose is to document existing conditions of structures prior to the start of major construction
 - Baseline report prepared prior to start of demolition
 - Invite to opt into inspection program provided to property owner about 90 days prior to planned start of work
 - Property is eligible for a post-construction survey even if owner did not elect to get a pre-construction survey, though survey findings may be more limited, and damage claims maybe be more difficult absent a pre-construction survey
- Surveys performed by independent third-party engineering firm
 - A hard copy and digital copy (CD or thumb drive) is provided to the property owner via certified mail
 - Point of contact provided for property owner to discuss any questions on the survey findings

Damage Claims Process

Northern Bus Garage Reconstruction Project

Damage Claim Process

- Claim form will be available by request through the project website
 - wmata.com/NorthernBusGarage
- Clark project staff will review the claim form with property owners to make sure all required information is submitted
- Claim forms will be submitted to Clark's risk department by our safety manager
- Claims will be assigned to an adjuster by Clark's insurance company
- The insurance adjuster will contact the property owner to schedule an inspection of the reported damage

Damage Claim Process

- After inspection, the adjuster will provide a written estimate for the cost of repairs to the property owner
- The property owner may choose to get an independent opinion of cost for repairs
- Once a settlement agreement is reached between property owner and insurer, payment will be made to the property owner by the insurance company
- If the damage claim is found to not have merit, a findings letter will be prepared by the adjuster and mailed to the property owner
- There is an appeals process if the property owner disagrees with the adjuster's determination

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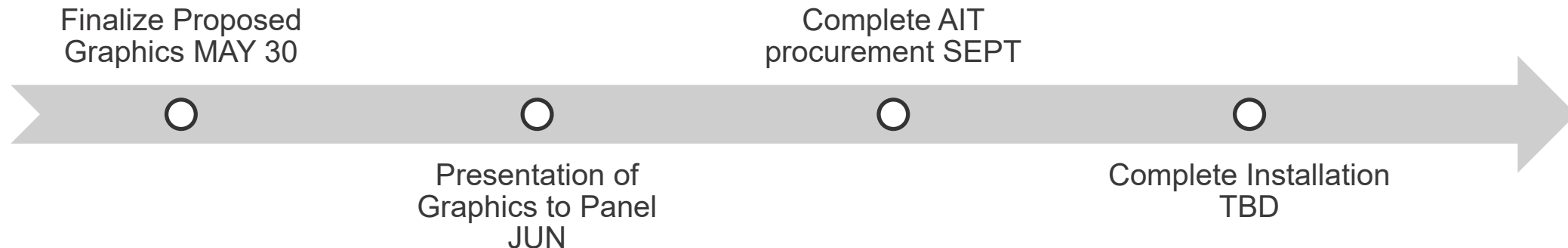
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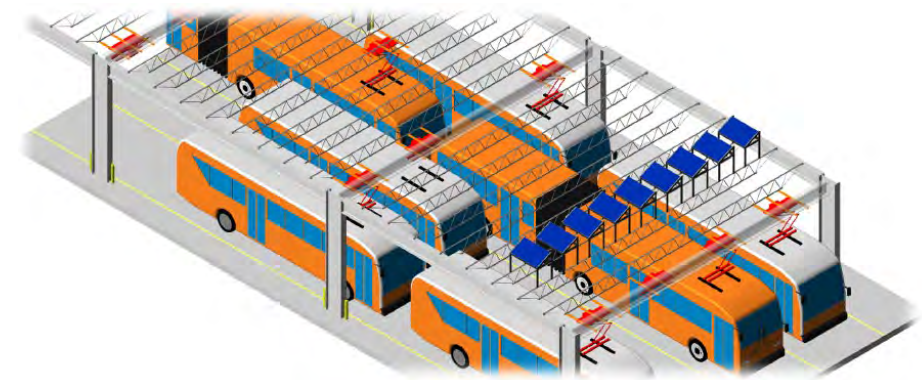
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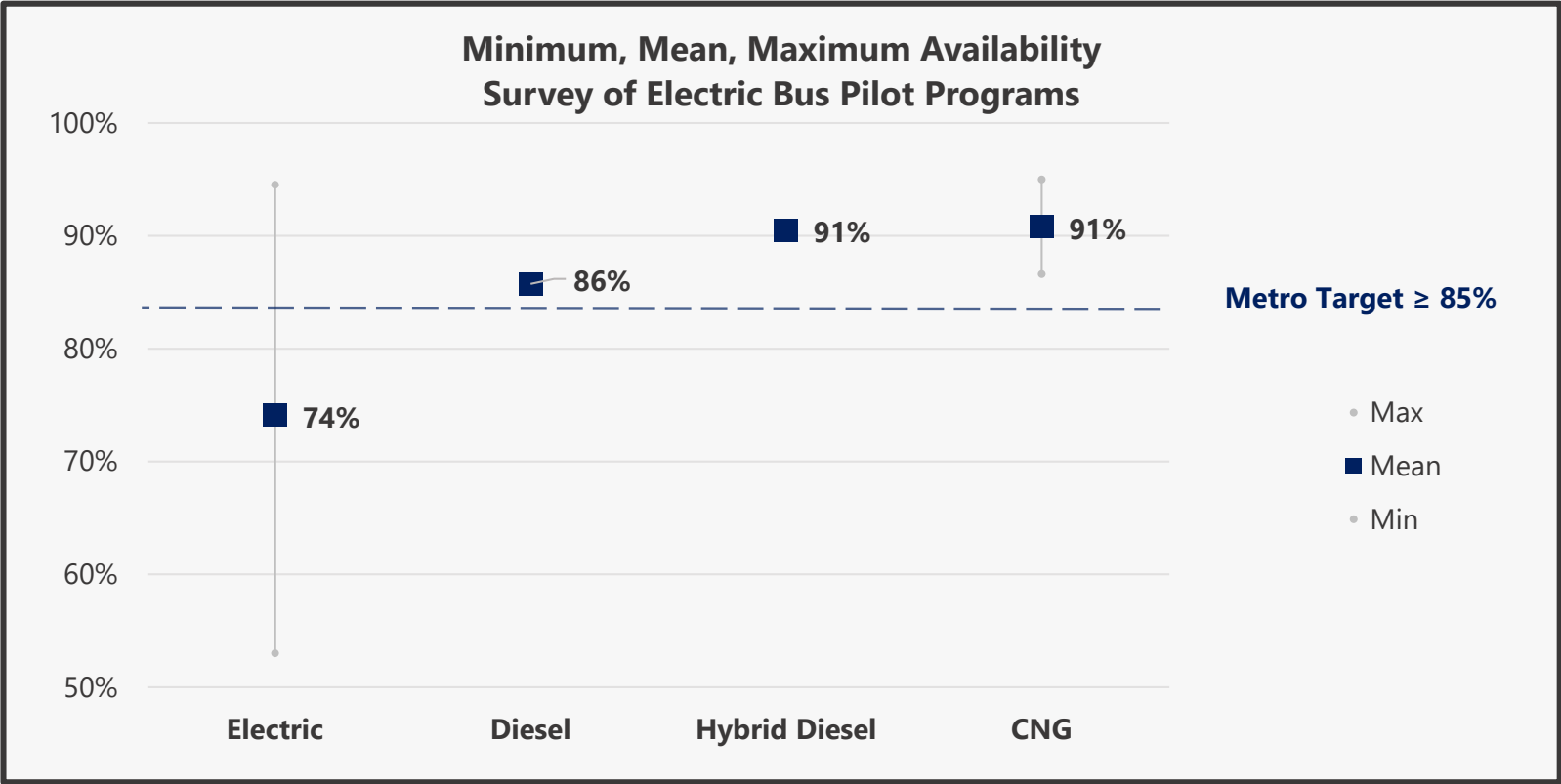


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Metro Advancing Electric Bus Plans, Monitoring Technology

Expectation is electric buses will eventually be capable of 1-for-1 replacement of conventional buses

Every year, Metro's bus fleet covers 50 million miles and delivers 3.7 million hours of service

Performance Factor		Present	Target
	Miles/hours of service	Limited demonstration data suggests ~ 15,000-20,000 miles/year	On par with conventional vehicles ~ 30,000 miles/year
	Availability	Demonstrated availability averages ~ 75%	On par with conventional vehicles ~ Available 85% of days
	Reliability	Limited demonstration data suggests ~ 2,500-5,000 miles between failures	On par with conventional vehicles, Metro target ~ 7,000 miles between failures
	Travel range	In ideal operating conditions ~ 150 miles	On par with conventional vehicles ~ 250+ miles
	Useful life	Useful life assumption of 12 years	On par with conventional vehicles 15 years

Upcoming Electric Bus Test and Evaluation will provide data and experience with electric bus performance in Metro operating conditions

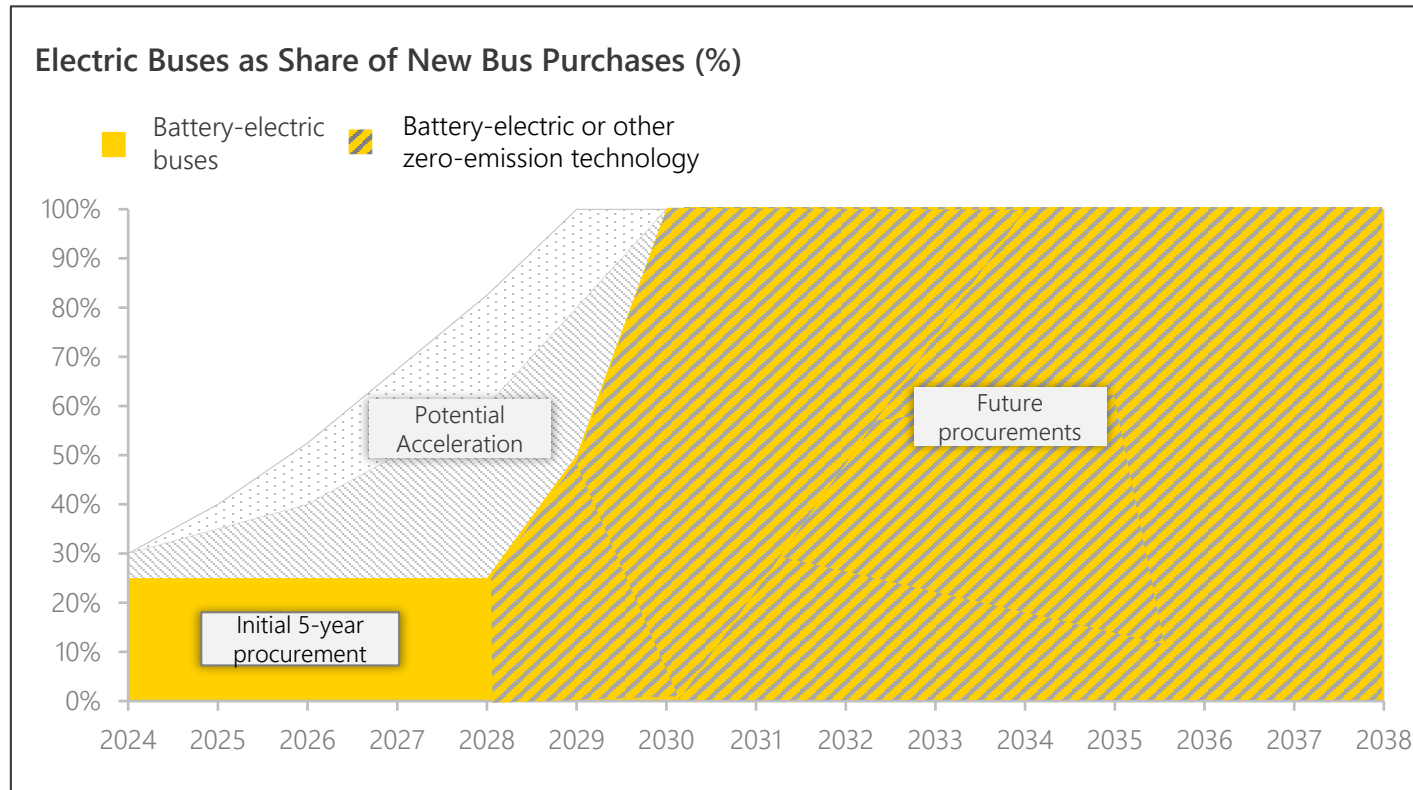
Draft Strategy: Metrobus Fleet Summary

- **Begin adoption of electric buses**, starting with next bus procurement, and transition new bus procurement to 100% electric or other zero-emission technologies by 2030, fleet fully zero-emission by 2045.
- Maintain **steady state** fleet size of approximately 1,593 buses, procuring 100 new vehicles per year.
- **Articulated 60-foot buses**: Grow share of overall bus fleet from current **4% to 12%**, or 180 buses, to address crowding and improve capacity on high ridership corridors.
- **Spare ratio of 19.5%**, changed from current 18.5%, to support bus technology transition, increase in articulated buses, reduced garage and fleet flexibility, and increased capital program support needs (e.g., Platform Improvement Project).

A fleet's **spare ratio** is defined as the number of **spare vehicles** (extra buses in the fleet for maintenance and training purposes) **divided by the number of vehicles required for annual maximum service** (running service at the busiest time on the busiest day).

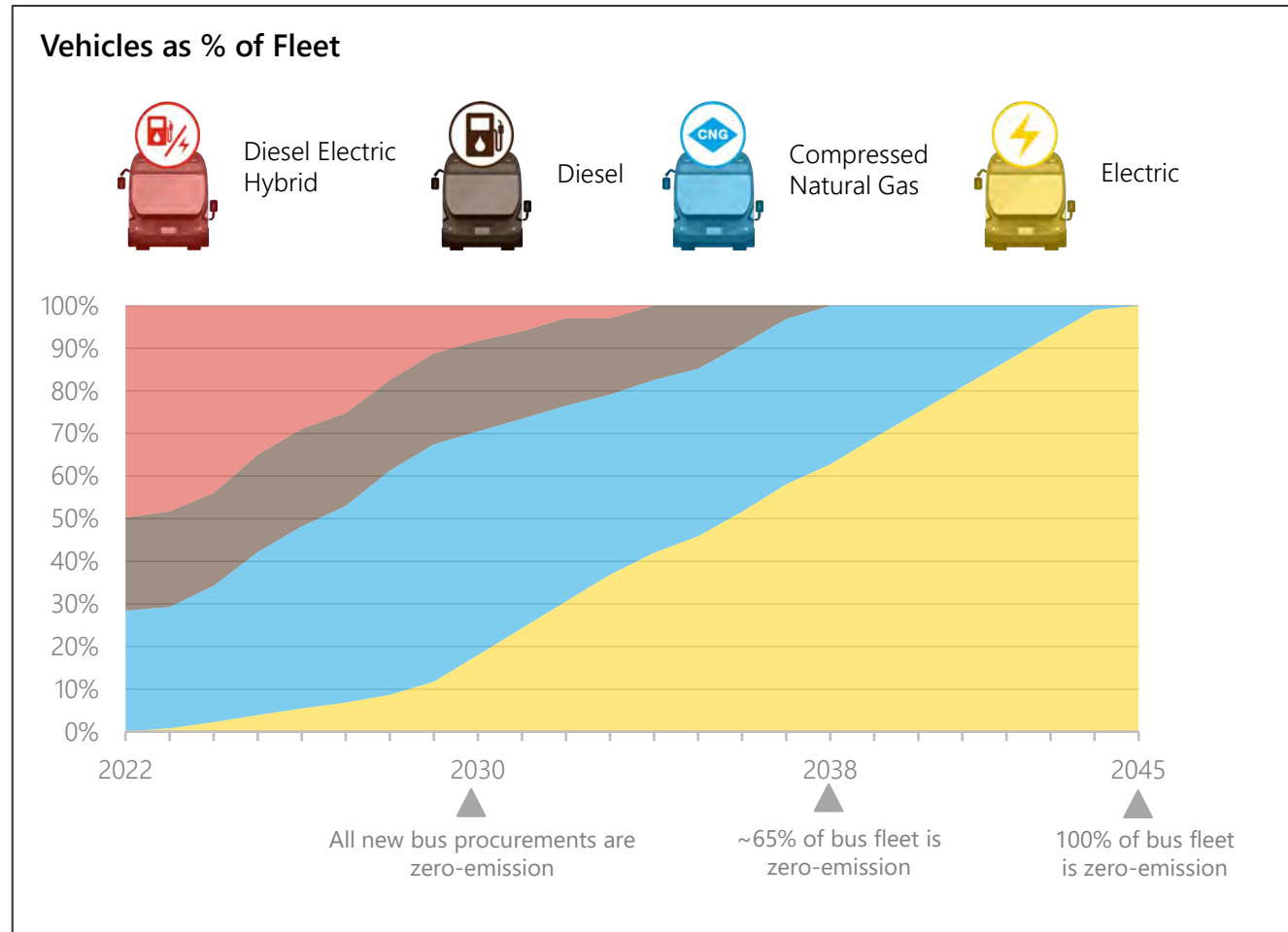
Spare ratios are expressed as a percentage. If a fleet had **100 vehicles** required for service and **20 spares**, the total fleet is 120 buses and has a **spare ratio of 20%**.

Draft Strategy: Bus Procurement



- Draft Bus Fleet Strategy contemplates **phased approach** to electric bus adoption
 - Purchase only **lower-emission and electric buses** in next bus procurement
 - Transition to **100% zero-emission bus purchases by 2030**
 - Fleet **100% zero-emission by 2045**
- Draft Strategy weighs flexibility and adaptability with the potential for faster adoption of electric or other zero-emission buses if:
 - 1-for-1 replacement is possible sooner
 - More funding is available
 - Facility capacity and infrastructure improvements are realized more quickly

Draft Strategy: Fuel Mix Implications



- **Flexibility and adaptability** considered in draft strategy, especially as technologies emerge and develop
- Draft target of 100% of new bus procurements to be **zero-emission by 2030**, **~65% zero-emission fleet by 2038**, **100% zero-emission fleet by 2045**
- Hydrogen fuel cell and other zero-emission bus types considered and evaluated in future

Draft Strategy: Electric Bus Support, Facility Requirements

Conversion of Metro facilities to support electric buses requires investment

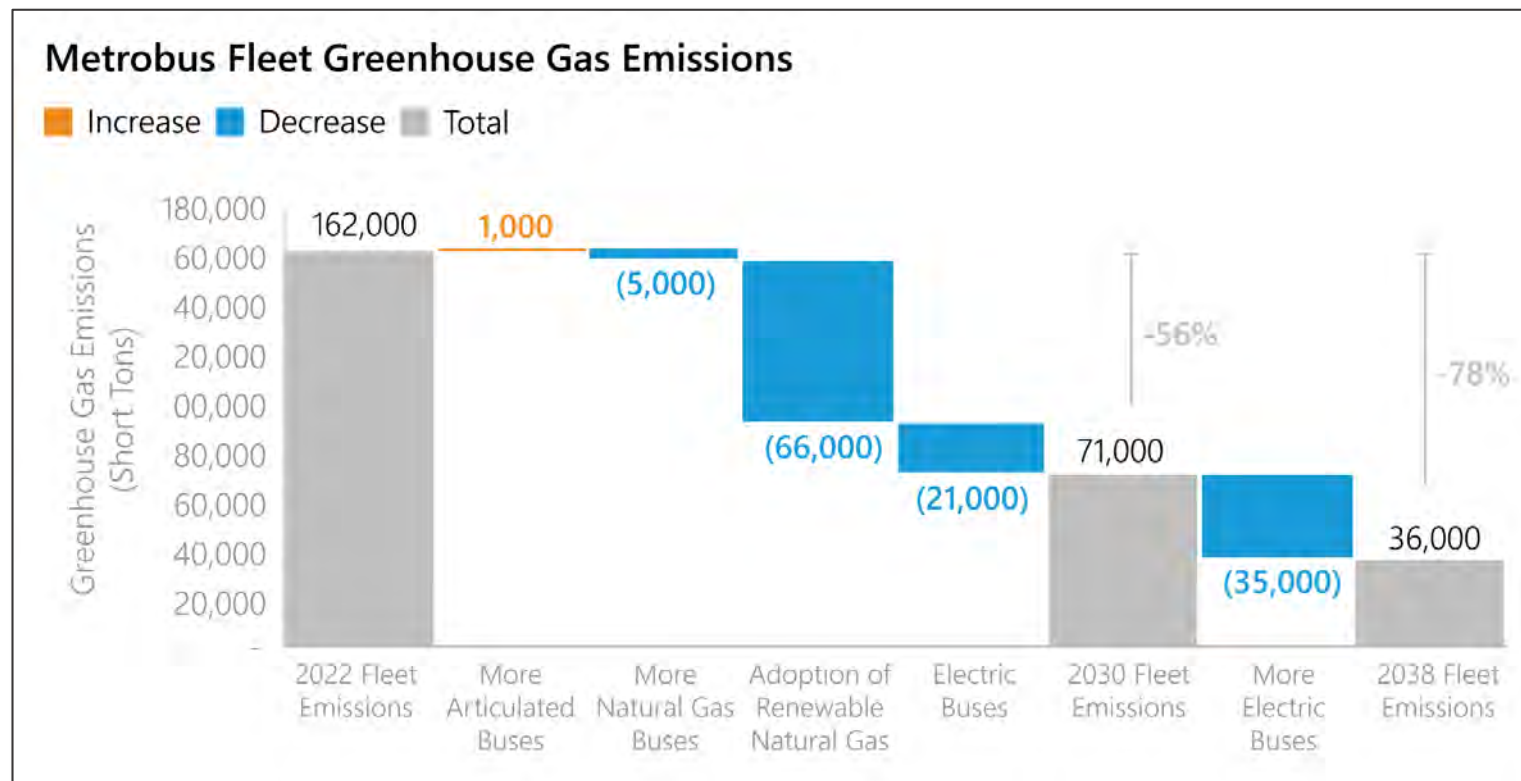
- **Charging equipment:** Chargers (plug-in, pantograph, etc.), conduits, transformers and other equipment must be installed in each garage offering electric bus support.
 - Potential exploration of in-route charging infrastructure, depending on deployment factors and fleet needs
- **Garage configuration:** Ceiling height, parking, and maintenance area dimensions and layouts likely to impact support for new bus technology.
- **Workforce opportunities and collaboration with labor:** New vehicle technologies will require new maintenance skillsets and training protocols, offer new skills and job training opportunities for workforce in the region.
- **Parts and materials storage:** New bus technology requires new parts inventories and other supporting materials and equipment.
- **Operational and safety considerations:** Time required for charging, operator role in bus charging likely to impact operations and require planning and review. Further modifications expected to ensure facility safety.

Facilities are the critical path to transition
Some factors within Metro's control, others to require regional coordination and support



Conceptual design of Division Charging Infrastructure
Source: LA Metro, ZEBGO December 2019

Draft Strategy: Emissions Implications, Greenhouse Gases



Source: EPA bus emissions data and 2020 Department of Energy Argonne National Laboratory model.

- Every trip taken with Metro instead of a car reduces the region's greenhouse gas emissions; **lower-emission vehicles provide additional benefit**
- Addition of **electric buses**, expansion of **CNG fleet**, adoption of **renewable natural gas** drive greenhouse gas emission reductions
- Estimated **~56% reduction** in annual emissions by 2030, **~78% reduction** by 2038

Metrobus Fleet Strategy Next Steps

- Metro staff presented draft Metrobus fleet strategy to Board of Directors on June 10, 2021 and recommended Board adoption of zero-emission vehicle goals:
 - Purchase only **lower-emission and electric buses** in next bus vehicle procurement
 - Transition to **100% zero-emission bus purchases by 2030**
 - **100% zero-emission bus fleet by 2045**
- Board currently considering proposed zero-emission vehicle goals



Art in Transit
New Leaf, 2006
Lisa Scheer

Any Questions?

There are two ways to submit your questions



Request to speak by typing your name
in the chat

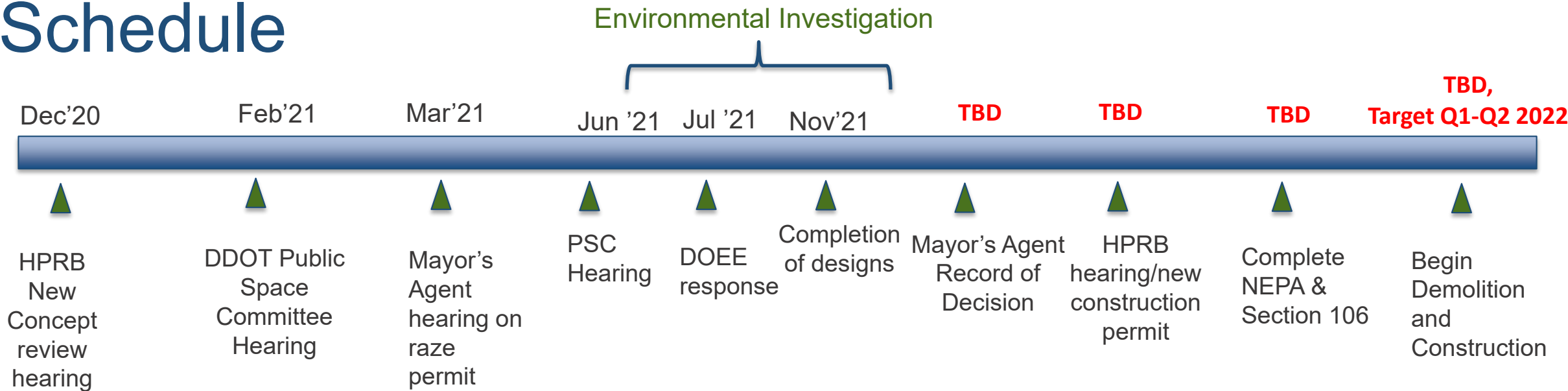


Type questions directly into the chat

What to Expect in 2021

Northern Bus Garage Reconstruction Project

Schedule



Mayor's Agent clearance of Raze Permit, NEPA review, and Section 106 process must be received/completed before project can begin demolition/construction

Upcoming Community Engagement Meetings



Fall
*Sept. 21, 2021



Winter
*Dec. 14, 2021

- Updates posted to wmata.com/NorthernBusGarage and shared via email
- Email MCAP_NBG_Reconstruction_Project@wmata.com to join the project's community contact list or request additional information

****Dates may be subject to change***

Any Questions?

There are two ways to submit your questions



Request to speak by typing your name
in the chat



Type questions directly into the chat

APPENDIX 3: REGIONAL TRANSPORTATION IMPROVEMENT PROGRAM AMENDMENT
NUMBER 5857

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Appendix A: DC STIP Project List

Introduction to Project Listings

The first and second years of the program contain a priority listing of those projects selected for funding. Each transportation improvement project must be included in the first or second year at key stages in its implementation (preliminary engineering, right-of-way acquisition, and construction) as a basis and condition for all federal funding assistance. This includes all FAST Act funding under Title I (Surface Transportation) and Title III (Transit) to state, local, and regional implementing agencies for highway, transit, bicycle and pedestrian capital improvements and transit operating assistance. Projects are grouped according to the agency or jurisdiction responsible for implementation.

Identification of the funding source is for programming purposes only and does not necessarily represent approval from the appropriate federal agency. Projects may appear in programs at various times: when applications for federal funds are made for preliminary engineering, right-of-way acquisition, construction, study or other. Funding source codes are defined in Appendix C of this document.

All major projects in the TIP come from Visualize 2045. In addition, a number of projects appear in the TIP which are minor in nature and are shown in order to establish eligibility for federal funding assistance. Also, some non-federally funded projects are shown, which are either recommended in the Plan, or are considered regionally significant and important to identify for air quality analysis and informational purposes.

Grouping of Projects

Some projects in the program are considered to be too small in scale for individual identification in the TIP. These types of projects include signalization, traffic engineering, various safety, noise abatement, modernization projects, preventive maintenance and rehabilitation that do not change the use or scale of existing facilities, and certain small-scale highway and transit projects, do not trigger and air quality conformity analysis, and typically require a NEPA Categorical Exclusion or Programmatic Categorical Exclusion. These types of projects are grouped together under type of project, funding source, and programming agency. In February 1994, the TPB approved a set of criteria for grouping projects based upon those project types that are exempt in the EPA air quality conformity regulations.

TIP ID	5857	Agency Project ID	Total Cost	\$318,910,000
Lead Agency	Washington Metropolitan Area Transit Authority	Municipality	County	
Project Type	Transit - Maintenance	Completion Date	TCM	
Project Name	Bus Garages - Systemwide Maintenance, Expansion, Rehabilitation, and Replacement			
Project Limits	Not Location Specific			
Description	Provides funds for: a. Rehabilitation and Replacement of Bus Garages: upgrades, rehabilitation, and/or replacement of bus garages and maintenance facilities, including Bladensburg and Northern Bus Facilities. Maintenance of Bus Garages: maintenance of bus garages/maintenance facilities. c. Expansion of Bus Garages: expansion of bus garages to meet storage and maintenance needs of growing fleet.			

Phase	Fund Source	Prior	FY2021	FY2022	FY2023	FY2024	Future	Total
OTHER	SECT. 5307	\$15,840,000	\$17,416,000	\$3,600,000	\$6,000,000	\$2,600,000	-	\$45,456,000
OTHER	LOCAL	\$29,260,000	\$4,354,000	\$26,070,000	\$81,000,000	\$132,770,000	-	\$273,454,000
	Total Other	\$45,100,000	\$21,770,000	\$29,670,000	\$87,000,000	\$135,370,000	-	\$318,910,000
	Total Programmed	\$45,100,000	\$21,770,000	\$29,670,000	\$87,000,000	\$135,370,000	-	\$318,910,000



*Not Location Specific

Version History

<i>TIP Document</i>			<i>MPO Approval</i>	<i>State Approval</i>	<i>FHWA Approval</i>	<i>FTA Approval</i>
21-00	Adoption	2021-2024	03/20/2020	10/01/2020	05/27/2020	05/27/2020

Current Change Reason

SCHEDULE / FUNDING / SCOPE - Programming Update

APPENDIX 4: AIR QUALITY MANAGEMENT

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WMATA NORTHERN BUS GARAGE REPLACEMENT

AIR QUALITY CONFORMITY AND HOT SPOT ANALYSES

APRIL 23, 2020

Prepared by: HNTB

Introduction

WMATA intends to use federal funding from the Federal Transit Administration (FTA) for the replacement of the Northern Bus Garage. The following explains the role of air quality conformity and hot spot analyses for the project.

The Environmental Protection Agency (EPA) sets limits on each of the six criteria pollutants in the National Ambient Air Quality Standards (NAAQS), limiting the level of concentration of these pollutants in the air for each jurisdiction:

- Carbon monoxide (CO)
- Small particulate matter (PM2.5, PM10)
- Ozone (O3)
- Nitrogen dioxide (NO2)
- Sulfur dioxide (SO2)
- Lead (Pb)

Air Quality Conformity

Air quality conformity is a process intended to ensure that FTA funding goes to transit activities that are consistent with the air quality goals set forth in the CAA. Air quality conformity applies to two levels of transportation activity described below.

Regional Plans

Regional plan conformity is a process required of National Capital Region Transportation Planning Board (TPB), as the region's metropolitan planning organization, to ensure that only those transportation activities that are consistent with air quality goals receive federal funding and approval. TPB staff test the draft plans and Transportation Improvement Programs (TIPs) to ensure that the region's planned transportation projects, when considered collectively, contribute to the air quality improvement goals embodied in the Clean Air Act. Staff perform a series of tests with computer models that estimate air pollution levels from mobile sources over the next 25 years. Once the TPB finds that the plan meets the regional air quality goals, federal agencies certify that the plan is "in conformity." In other words, the TPB ensures that its plan and TIP conform to air quality improvement goals. This project is included in the DC Statewide Transportation Improvement Program (DC STIP) FY2021-2024 with a project ID 5857.

Individual Projects

Individual projects funded by FTA and located in areas that do not meet (non-attainment areas) or previously have not met (maintenance areas) the NAAQS for a transportation-related pollutant are subject to conformity. The Northern Bus Garage project is located in northwest Washington DC,

which is part of the EPA-defined Metropolitan Washington Air Quality designation area. The area is in attainment for carbon monoxide (CO), particulate matter less than 10 microns (PM10), 2.5 microns (PM2.5), nitrogen dioxide (NO2), sulfur dioxide (SO2), and lead (Pb).¹ However, the Washington DC area is currently designated as non-attainment for 8-hour ozone (O3).

When each air pollutant standard is set, the EPA defines geographic areas (generally counties clustered around a metropolitan area) that must be evaluated for each pollutant. Meanwhile, data are continually collected from monitors set all around the country that read the level of the criteria pollutants. If, based on a very specific definition, an area's data show levels above the standard, the area is designated as "non-attainment." Based on the monitor levels, each non-attainment area is given a level of severity (marginal, moderate, serious, severe, or extreme) that defines how many years the area has to attain the standard.

This project is in an area where the State Implementation Plan (SIP) contains transportation control measures to demonstrate attainment for ozone. A SIP is a collection of regulations and documents used by a state, territory, or local air district to reduce air pollution in areas that do not meet NAAQS. Conformity, for the purpose of the SIP, means that transportation activities will not cause new air quality violations, worsen existing violations, or delay timely attainment of the NAAQS. Inclusion in the region's conforming TIP serves as project-level analysis for Ozone.

Hot-Spot Analyses

Under the CAA, a transit project must not cause or contribute to any air quality hotspots. This requirement is explained in the EPA conformity regulation at 40 CFR § 93.116. A hot spot is a small geographic area within a metropolitan area, such as the vicinity of a congested highway intersection, where pollutant emissions build up to a level that exceeds the NAAQS for that pollutant. A short distance from the hot spot, the pollutant concentration is much lower because the pollutant disperses as it drifts away from its source within the hot spot. This requirement applies only to projects that are located in a nonattainment or maintenance area for CO, PM2.5, or PM10. The other transportation pollutants (ozone and nitrogen dioxide) are regional in nature and do not form hot-spots.

To analyze air quality impacts of transportation projects, hot-spot analyses may be required if it meets criteria stated in the 40 CFR 93.123 - "Procedures for determining localized CO, PM10, and PM2.5 concentrations (hot-spot analysis)". A hot-spot analysis estimates how the proposed project might influence local pollutant concentrations, and how the estimated condition compares to NAAQS. Based on the criteria in the EPA regulations, as the project is in a location that is in attainment for CO, PM2.5, or PM10, a quantitative hot spot analysis is not required.

If the project area was in non-attainment or maintenance for any of the three pollutants, two additional criteria would be considered determine whether a hot-spot analysis was required:

1. The first is whether the project would increase the number of diesel vehicles congregating at a single location (see 40 CFR 92.123(b)(1)(iv)). The proposed project would reduce the number of diesel-buses located in the facility from 175 to 150 buses.
2. The second is whether the project will significantly degrade the Level-of-Service (LOS) at nearby signalized intersections due to increase in diesel vehicles (see 40 CFR 92.123(a)(1)(ii) and 92.123(b)(1)(ii)). This includes projects affecting intersections that are at (LOS) D, E, or F (i.e., congested), or those that will change to LOS D, E, or F because of increased traffic volumes related to the project. As shown in the 2015 MoveDC Plan, the

¹ <https://doee.dc.gov/service/air-quality-planning>

peak AM and PM traffic volumes on the adjacent street network are very low. Since traffic volumes would not increase as a result of the project, congestion is not anticipated.

Conclusion

This project is in an area where the SIP contains transportation control measures. Inclusion in the region's conforming TIP serves as project level analysis for ozone; therefore no further analysis of ozone emission is required.

Since the project is in an area of attainment for CO, PM 2.5, and PM10, no further hot-spot analyses for CO, PM2.5, and PM10 are required.

The conformity requirements for transportation are found in Section 176(c) of the Clean Air Act (42 USC § 7506(c)). The U.S. Environmental Protection Agency (EPA) regulation to implement the requirements is found at 40 CFR Part 93.

APPENDIX 5: CULTURAL RESOURCES CORRESPONDENCE

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U.S. Department
of Transportation

**Federal Transit
Administration**

REGION III
Delaware, District of
Columbia, Maryland,
Pennsylvania, Virginia,
West Virginia

1760 Market Street
Suite 500
Philadelphia, PA 19103-4124
215-656-7100
215-656-7260 (fax)

April 16, 2019

Mr. Andrew Lewis
Senior Historic Preservation Officer
Historic Preservation Office
District of Columbia, Office of Planning
Washington, D.C. 20024

RE: Section 106 Initiation, WMATA Northern Bus Garage Replacement Project

Dear Mr. Lewis:

The Washington Area Metropolitan Transit Authority (WMATA), with the Federal Transit Administration (FTA) as the lead federal agency, proposes a major renovation of WMATA's existing Northern Bus Garage, located at 4615 14th Street, N.W., Washington, DC. As a federally-funded undertaking, the project is subject to Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, and the associated implementing regulations. This letter serves as an initiation of the Section 106 consultation for the following undertaking.

WMATA proposes to maintain the historic 14th Street NW building façade, and reconstruct the remaining building, which is listed as the Capital Traction Company building (NR#13000290, listed May 22, 2013).¹ As stated in the National Register of Historic Places (NRHP) nomination, in 1959, the original trolley tracks and transfer tables were removed and replaced with a concrete floor. The 1984 renovation plans call for demolition of existing masonry partitions and construction of a corridor, stair tower, and storage rooms as indicated" suggesting a good deal of the interior was replaced at that time.²

WMATA submitted a Section 106 Historic Finding for the Northern Bus Garage in 1985 "as to the effects that proposed improvements and property acquisition will have on the historic and known archaeological resources of the garage and its site"³. Correspondence pertaining to this undertaking states:

"Since that time [1956 conversion to bus only facility] several major renovation projects have taken place at the Northern Garage. The facility interior has undergone major changes and several major additions have been made to the eastern side lower level to accommodate the storage, maintenance and servicing of buses. In 1983 a 12 foot high brick wall was constructed along the facility's northern, eastern and southern sides to screen the garage and ameliorate the garage noise from the adjoining residential areas. Only the front facade of the garage structure facing 14th Street has not undergone any

¹ National Register of Historic Places, Capital Traction Company, Washington, D.C., National Register #13000290.

² Austin L. Spriggs Associates. *Northern Division Metrobus Garage Renovation Phase II, Part 3*. 1984, Sheet A-3).

³ Valge, Ado, WMATA Acting Director of Engineering & Architecture, Correspondence to Carol B. Thompson, District of Columbia Historic Preservation Officer, November 15, 1985. WMATA.

significant changes since it was constructed. The Authority's proposal would not change the 14th Street façade of the structure and would be architecturally compatible with the historic nature of the structure.

The existing structure is in bad need of repairs, and improvements are needed to improve the garage's working conditions and operating efficiency and to make the garage environmentally compatible with the surrounding community, and at the same time preserve the historic nature of the facility."

Between 1989 and 1992, WMATA substantially enlarged the building with the construction of one-story maintenance facility and storage area. With the completion of this addition, the building that originally occupied nearly half of Square 2811 now occupies all of Squares 2811 and 2815. The formally rectangular building now presents a pentagram-shaped footprint (Capital Traction Company Car Barn, listed April 05 2013). Based on prior consultation and existing documentation, the 14th Street façade of the building is the only area of historic fabric that appears of concern.

Proposed Project Undertaking

The Northern Division Garage is one of four facilities where articulated (expanded) buses are stored and maintained, and it is also an operating base and day-to-day maintenance facility. Current capacity accommodates 155 small/standard buses (40 ft. long) and 20 articulated buses (60 ft. long). The building contains 13 maintenance bays, two of which accommodate articulated buses.

Northern Division Bus Garage is situated proximate to its area of service, which minimizes the amount of deadheading (non-revenue service). The garage serves as a route terminal point for the 14th Street line. The current garage is an ideal location to store and maintain buses that serve high demand routes in central Washington, D.C. The facility, however, has insufficient storage and maintenance space; the concrete building structure is failing. The nearest garage facility is Bladensburg Bus Garage, located on Bladensburg Road, which is at capacity.

The 2018 Metrobus Facilities Plan Study considered the relocation of the Northern Bus Division facility to several sites in the District of Columbia, and concluded to retain and rebuild on the existing site because the analysis indicated that moving the current Northern Division to the alternative allocations results in 30-50 percent increases in annual operational cost. The 2018 study determined that the existing facility is functionally obsolete and costly to operate. Remedies for the functional deficiencies identified require extensive reconstruction within the current facility including:

- Service lanes slope downward, causing a risk of rolling if brakes are not engaged properly.
- Multiple access points along its perimeter, creating access control challenges.
- Only two of the 13 bays are large enough to service articulated buses limiting the maintenance capabilities.
- Site circulation is clockwise rather than the preferred counter-clockwise direction. Counter-clockwise circulation enables better visibility out of the driver's side window while turning, and improves safety.
- Multiple level changes within the building.

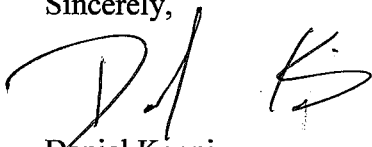
Recommendations in the study could be implemented only as part of a major reconstruction.

- Design most or all service bays to accommodate more articulated buses; this allows better service for the nearby downtown routes.
- Set structural column spacing to support 14 ft. minimum stall width.
- Place service lanes on level paving to minimize the risk of rolling buses.
- Minimize the number of access points along the perimeter to allow for proper access control.
- Design the facility with counter-clockwise circulation to improve operators' visibility while turning.
- Minimize the number of level changes within bus circulation and parking areas.

Enclosed you will find the Northern Bus Garage Replacement Project plans and the Section 106 Consultation Report including a proposed Area of Potential Effects (APE), and identification and evaluation of the NRHP listed or eligible properties in the APE (see **Enclosures 1-3**). As consultation proceeds, FTA and WMATA will send out public notification letters and project information to interested parties. Any received comments will be provided to the your office.

FTA seeks your review of the enclosures and concurrence of the proposed APE. We also request a list of potential consulting parties for this undertaking. We look forward to coordinating further on this project.

Sincerely,

A handwritten signature in black ink, appearing to read 'DK', is written over the word 'Sincerely,'.

Daniel Koenig,
Community Planner

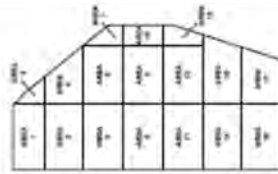
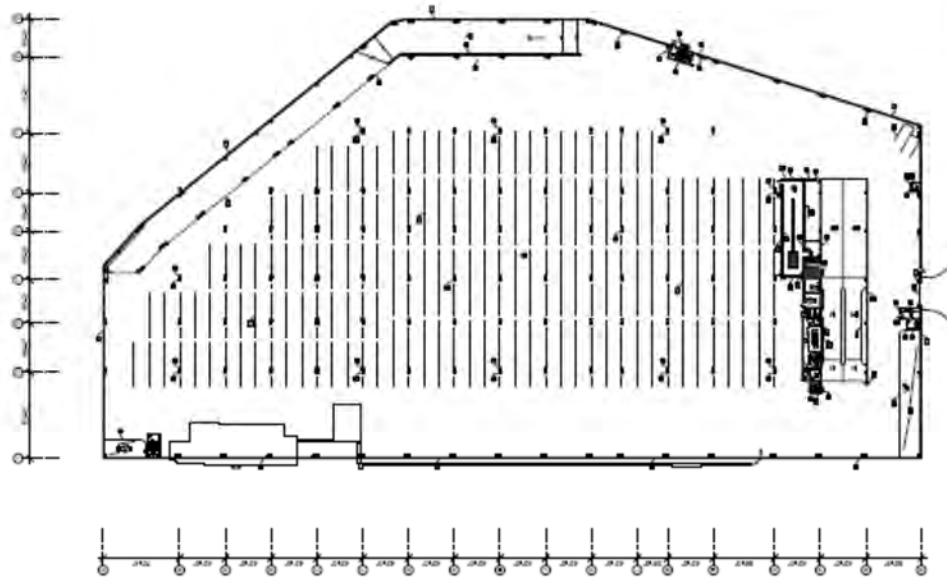
cc: Jeff Winstel, WMATA

Enclosure 1: Northern Bus Garage Replacement Project Plans
Enclosure 2: Section 106 Consultation Report
Enclosure 3: 2018 Metrobus Facilities Summary Report

ENCLOSURE 1

Northern Bus Garage Replacement Project Plans

[illegible]



— 1 —

POWELL

Level-1 Placement (But Strongly Favors Math)

NORTHERN BUS GARAGE REPLACEMENT PROJECT
Overall Plan - Bus Parking Level

Overall Plan - Bus Parking Level

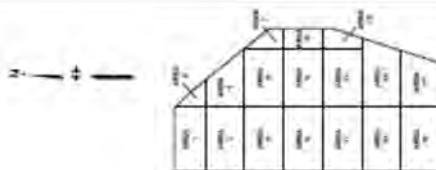
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WASHINGTON METROPOLITAN TRANSIT AUTHORITY
DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES
OFFICE OF THE CHIEF ENGINEER, INFRASTRUCTURE

Author(s)	Year
Adams, J. L., & Smith, J. R.	2005

[illegible]

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		DATE					
000002	ALL	07/20/98					
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APPENDIX		DATE					



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NORTHERN ILLINOIS GARAGE REPLACEMENT PROJECT

Overall Plan -
Employee Parking Level

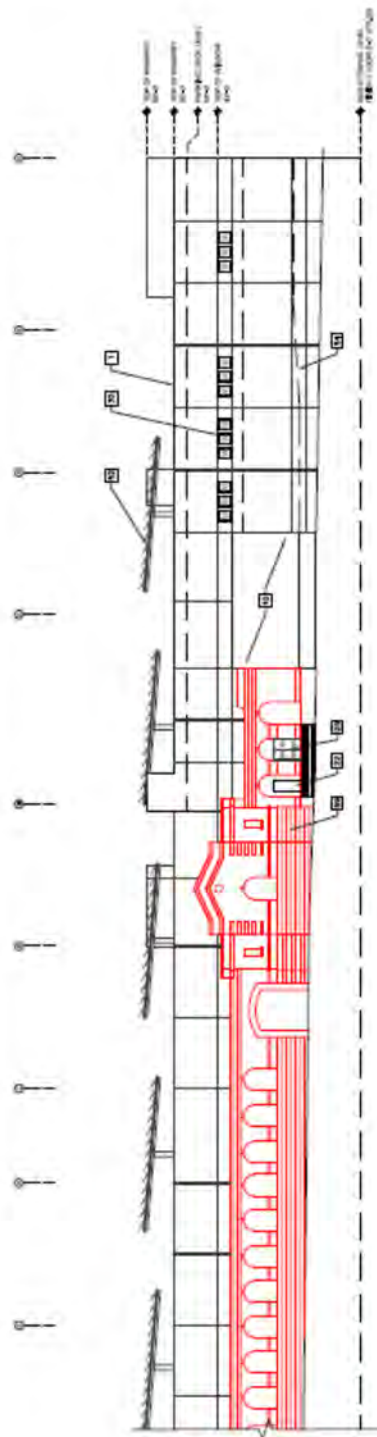
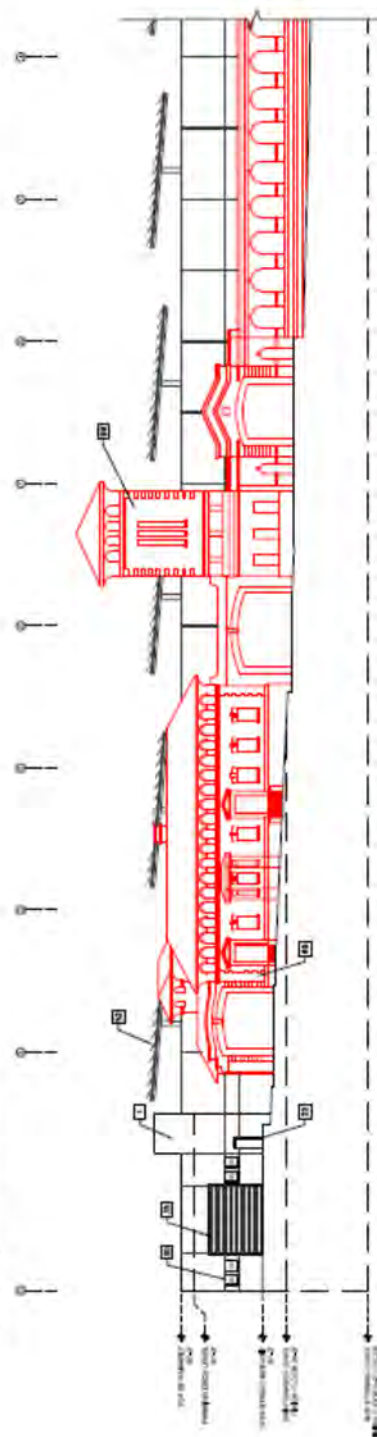
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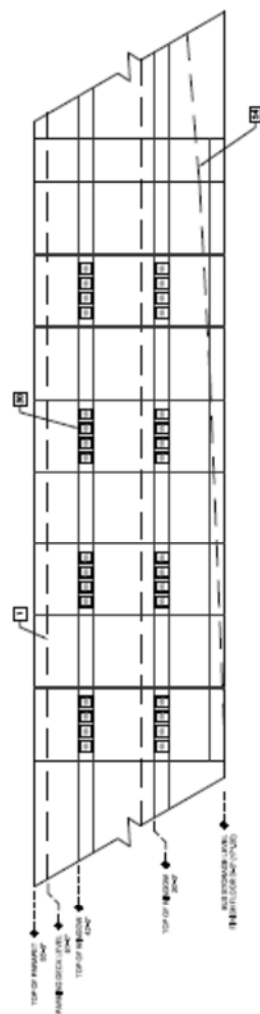


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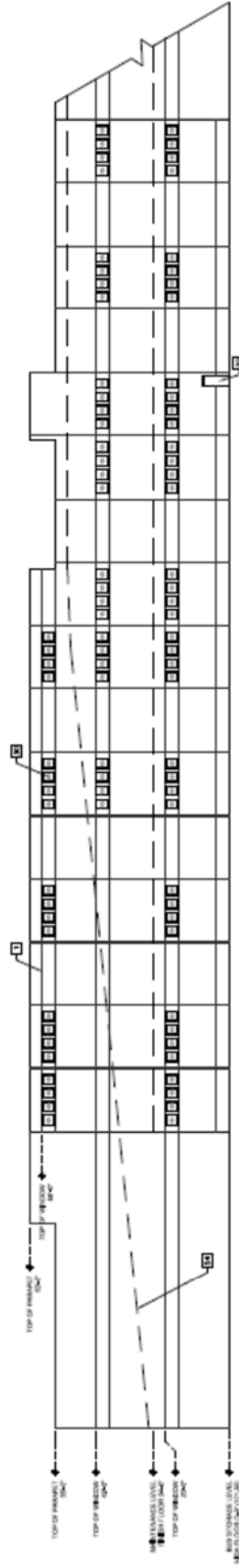
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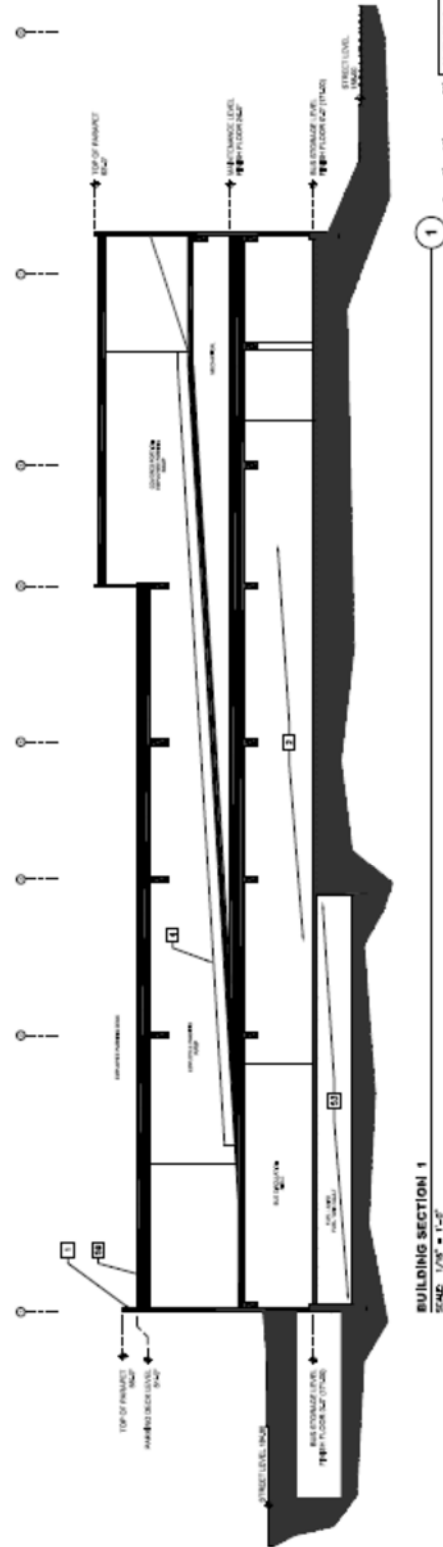
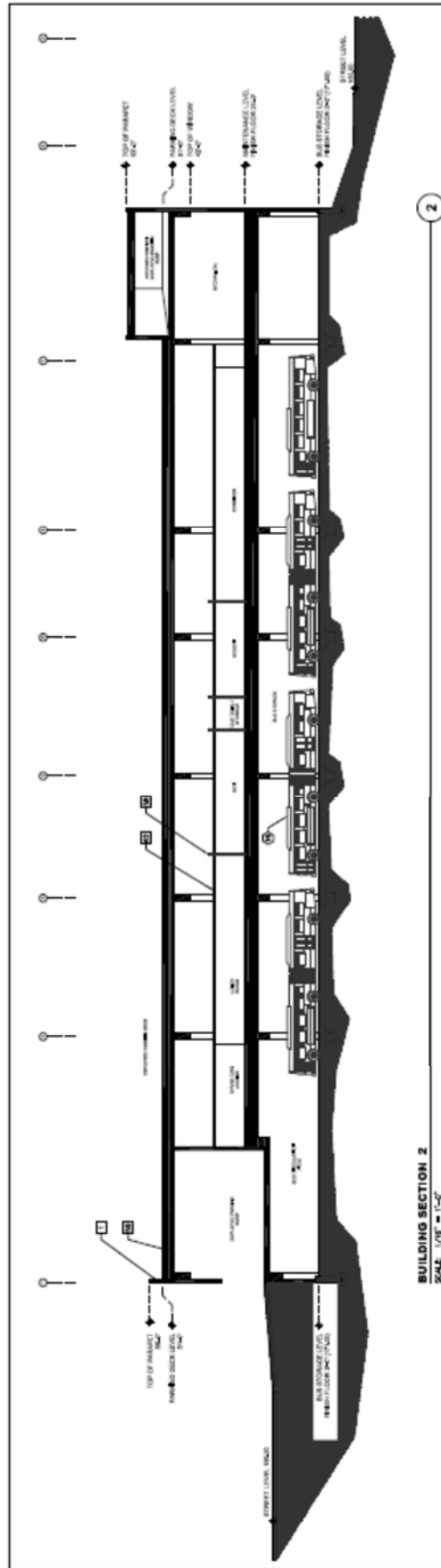


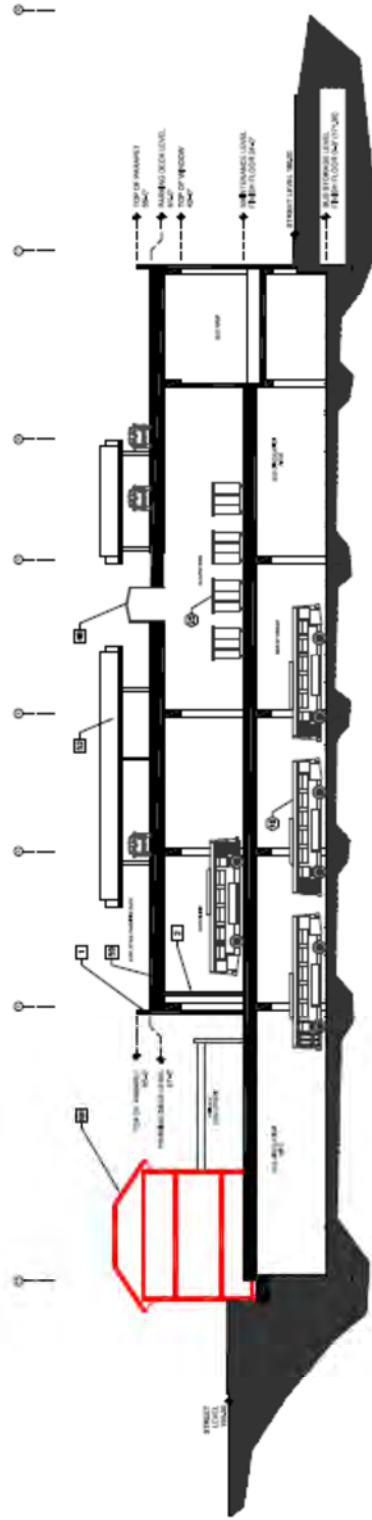
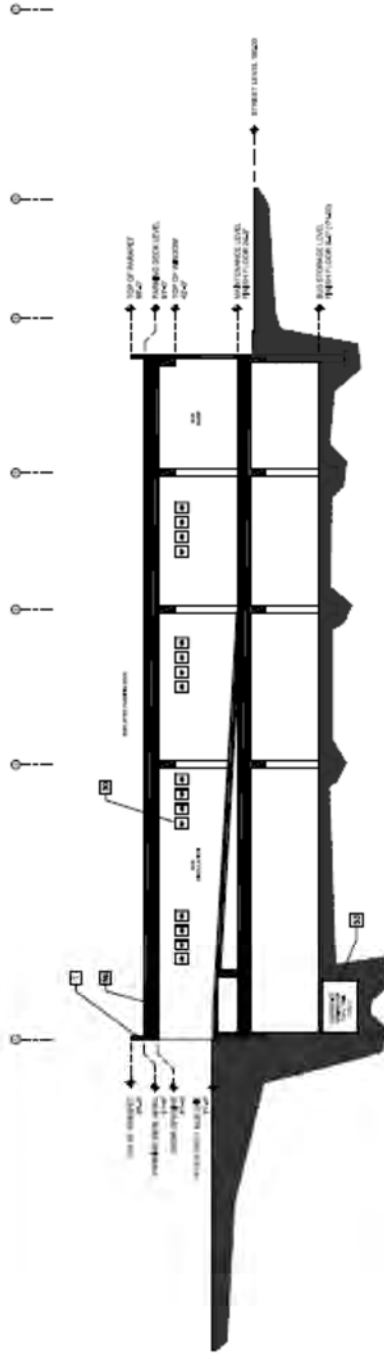
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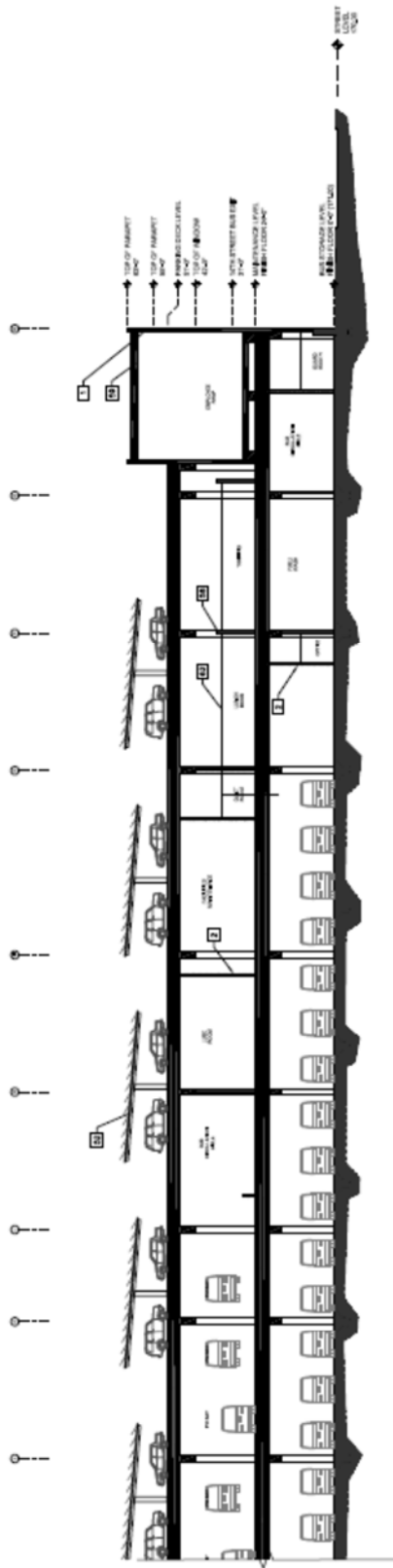
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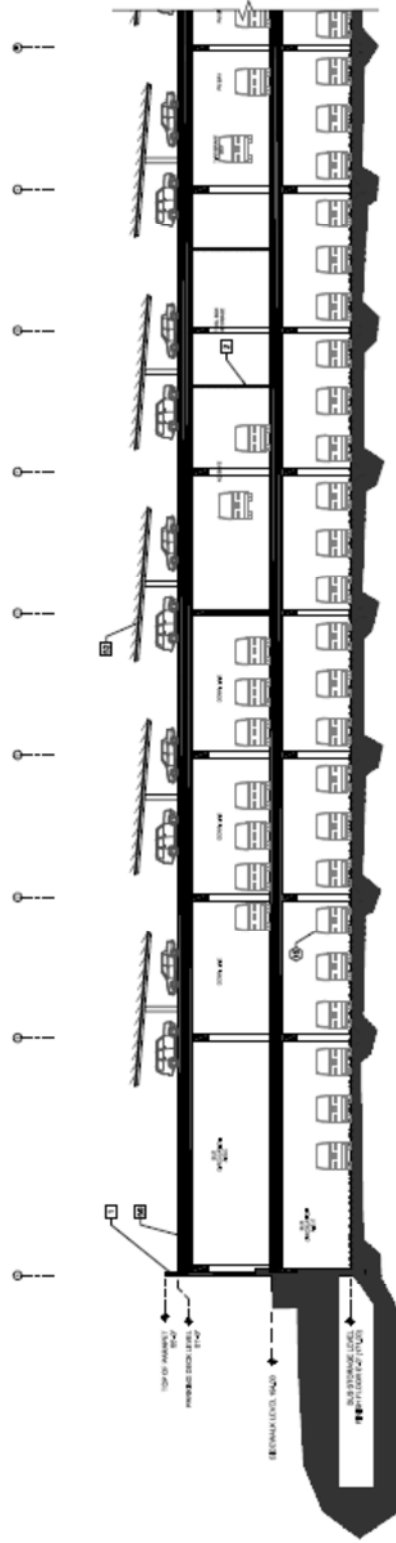
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ENCLOSURE 2

Section 106 Consultation Report

Section 106 Consultation Report Northern Bus Garage Replacement

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Figure 4: Figure 4: Capital Traction Company Car Barn, Sanborn Fire Insurance Company, 1959. Source: NRHP #13000290

Overview

The proposed undertaking is the FTA-funded WMATA façade preservation, demolition, and replacement of the Northern Division Bus Garage, located at 4615 14th Street, N.W. This building is listed in the National Register of Historic Places (NRHP) (#13000290, listed May 22, 2013). The building has been subjected to numerous alterations beginning with a small one-story addition in 1926. The last alteration occurred in 1987, a “substantial renovation” as stated on the building permit. This work included the replacement of all original windows, part of the existing roof and steel framing, adding new bus service lanes and a concrete slab parking area. A 2015 Metrobus Facilities Plan Study analyzed relocating the Northern Bus Division elsewhere in Washington, D.C. (Metro 2015). The study determined that the existing location has several operational advantages. The 2018 Metrobus Facilities Plan found the Northern Bus Garage, despite its locational advantage, was “functionally obsolete and costly to operate” (Metro 2018). This latest study determines that realization of its recommended repairs and improvements “could be implemented only as part of a major reconstruction” (Metro 2018).

Area of Potential Effects

The Capital Traction Company Car Barn as constructed contained a lower level. The proposed undertaking will not include ground disturbance in areas that have not been previously disturbed. This undertaking does not include new ground disturbance, so there is no archaeological Area of Potential Effect (APE).

The Northern Bus Garage is located in the Northwest Quadrant of Washington, D.C., east of Rock Creek Park. The building is bound by 14th Street NW, Iowa Avenue NW, Arkansas Avenue NW and Buchanan Street NW. The area is a low-density residential neighborhood (Figure 1). The neighborhood developed shortly after the streetcar barn opened in 1906.

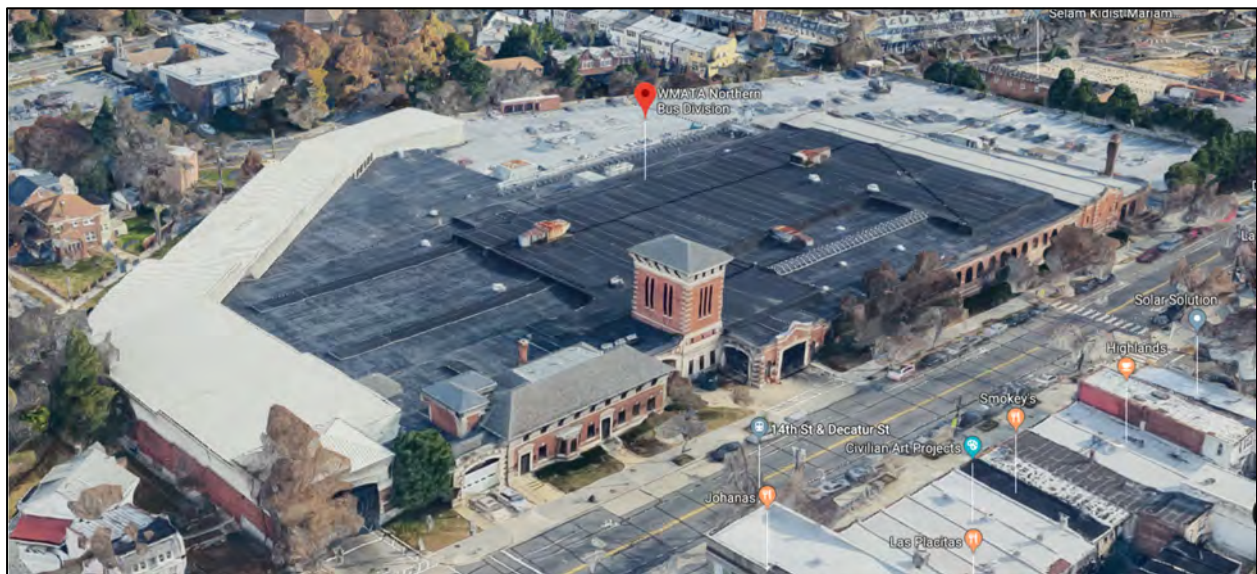


Figure 1: Northern Bus Garage Aerial Photograph, facing Southeast

The Historic/Architectural APE for this undertaking is determined by the distance from which a person could see the proposed undertaking, as established by on-site investigation. The area is a mature neighborhood with established trees. A small length of commercial strip along 14th Street NW faces the Northern Bus Garage. The APE boundary includes the entire block length of some side streets, as unobstructed views are possible from the middle of these streets (Figure 2).



Figure 2: Architectural/Historical Area of Potential Effect. Source: Google Maps

Scale 1"=100', N↑, APE Boundary —

Historic/Architectural Properties in the APE

The historic/architecturally significant properties in the APE are limited to the Capital Traction Company Car Barn. The low-density residential neighborhood appears primarily to consist of early 20th century houses, which evidence façade alterations and infill construction. The DC Office of Planning Office's interactive mapping, PropertyQuest, does not identify any historic

properties within the APE other than the car barn (DC Office of Planning). The boundaries for this historic property include all of Squares 2811 and 2815, mostly taken up by the footprint of the existing building, including the last additions dating up to 1990 (Figure 3).

Figure 3: Existing Conditions, Capital Company Barn and WMATA Northern Bus Garage Addition. Source: WMATA

The project will preserve the 14th Street façade of the building, but have an indirect adverse effect of the view of the façade. The new construction will project above the face and beyond the sides of the façade, altering the visual and spatial relationship between the street and the building. The proposed Northern Bus Garage Replacement Project will likely result in an adverse effect on the historic significance of the Capital Company Transit Barn.

SOI Standard 9 states that new construction shall not destroy historic materials that characterize the property (Figure 4). The 1906 car barn, except for the façade along 14th Street NW, will be demolished as part of this undertaking, and the visual appearance of the character-defining façade will be altered.

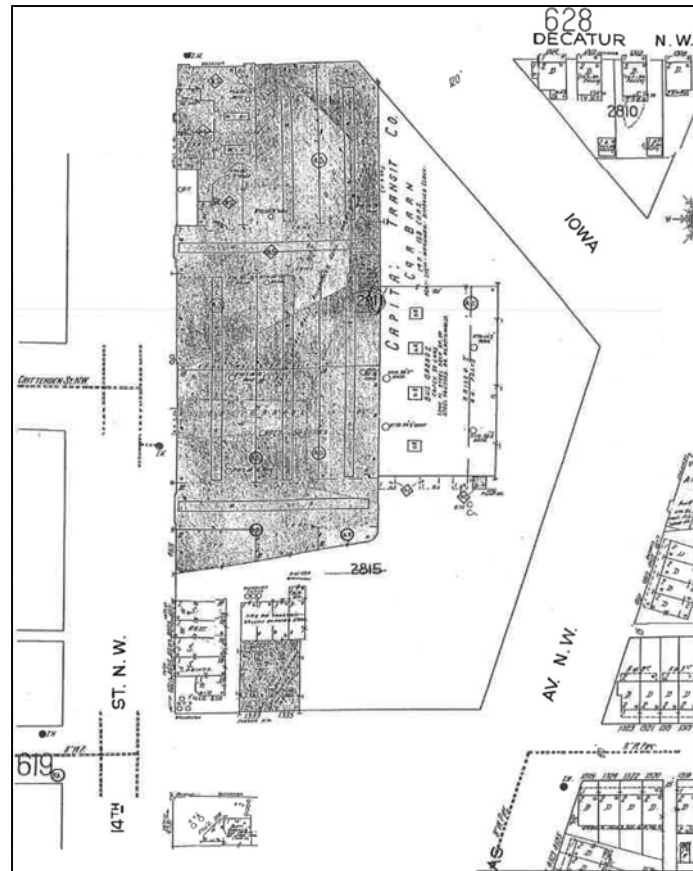


Figure 4: Capital Traction Company Car Barn,
Sanborn Fire Insurance Company, 1959. Source: NRHP #13000290

The FTA believes the proposed Northern Bus Garage Replacement will result in an adverse effect on the historic fabric of the NRHP listed Capital Traction Bus Garage.

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2018 METROBUS FACILITIES PLAN

Summary



Office of Bus Planning

Washington Metropolitan Area Transit Authority

Draft – September 2018, Version 1.0



2018 METROBUS FACILITIES PLAN

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2018 METROBUS FACILITIES PLAN

Signature Page

Approved by:

James Hamre, Director, Office of Bus Planning

Date



2018 METROBUS FACILITIES PLAN

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2018 METROBUS FACILITIES PLAN

1 Introduction

The Washington Metropolitan Area Transit Authority (WMATA)'s Metrobus system currently serves a population of 3.9 million persons who live and work in its 1,500 square mile service area. Metrobus has a broad reach: a fleet of over 1,500 vehicles serving regional activity centers and neighborhoods with 165 lines, 255 route variations, and over 10,000 bus stops. Metrobus is projected to carry 118 million passenger trips in FY2018, and ridership is projected to increase by 1% each year thereafter.

Although the Metrobus fleet has received substantial investments, until recently, facility condition has lagged behind. Bus maintenance and storage facilities form a critical part of the Metrobus operating system. The geographic location of these operating facilities plays a critical role in the overall cost of bus operation and service efficiency. The main challenges currently are:

1. Outdated facilities that restrict an efficient and effective working environment;
2. The capacity to maintain and operate Compressed Natural Gas (CNG) buses is constrained due to lack of sufficient CNG facility and locational dispersion;
3. The capacity to maintain and operate articulated buses is constrained due to the spatial mismatch between articulated bus routes and articulated bus bays at garage facilities; and
4. The efficiency of Metrobus service is heavily impacted by the prevalence of deadhead mileage (movement from garage to revenue service and vice versa) and time, due to the unfavorable location of several operating divisions.
5. Customer facilities are outdated, need electrification, some of the security upgrades are not accessible and have exceeded their lifecycle.

The purpose of the 2018 Metrobus Facilities Plan Summary is to provide a summary of the 2015 Metrobus Facilities Plan Study together with an assessment of identified needs for Metrobus Customer Facilities. The Metrobus Facilities Plan Study reviewed the needs and capacity constraints of existing bus operating and maintenance facilities, physical conditions of selected garages, identified shortcomings and prepared recommendations for capital improvement. The recommended plan addresses short, medium, and long-term investment needs based on projected changes to fleet size, technology, composition, service growth, and plans for structural and/or locational changes to operating divisions.

This summary highlights the constraints of existing facilities, bus terminals, shelters and bus stop customer information system, identifies the short, medium and long-term needs and provide a plan that serves as a blueprint for future investments.



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1.1 Organization of Report

The 2018 Metrobus Facilities Plan presents a summary of current conditions, identified needs, and recommendations that address facility requirements. This is a planning document that summarizes facility requirements from FY18 through FY25, based on the 2017 Metrobus Fleet Management Plan fleet projections and taking into consideration the capacities of the fleet maintenance and storage and bus customer facilities.

This report is structured as follows:

Section 2 – Bus Operating and Maintenance Facilities Existing Conditions Summary: This section summarizes current conditions and capacities of bus operating and maintenance facilities, garage facilities under construction, new plans for rebuilding old facilities and adding new fueling capacity. It also presents the major constraints at the existing facilities.

Section 3 – Bus Operating and Maintenance Facilities Summary of Identified Needs: This section summarizes findings of bus operating and maintenance needs for storage, running repairs and maintenance capacity, individual garage facility and future considerations.

Section 4 – Bus Operating and Maintenance Facilities Recommendations: This section presents capital improvement recommendations that address identified deficiencies for bus operating and maintenance facilities.

Section 5 – Bus Customer Facilities Existing Conditions and Identified Needs Summary: This section summarizes current conditions and identified needs for bus stop, shelters, transit centers, customer information systems, CCTV and personal announcement, off-street bus terminals, bus operator's restroom and breakrooms and others.

Section 6 – Bus Customer Facility Recommendations: This section presents capital improvement recommendations that address identified deficiencies for bus stop customer facilities.

Section 7 – Conclusion: This section presents a summary of the process followed to prepare the facilities plan, stakeholder's involvement and next steps to finalize the 2018 Metrobus Facilities Plan.

1.2 Studies and Plans

The following studies are used in preparation of the summary of the 2018 Metrobus Facilities Plan:

1. 2017 Metrobus Fleet Management Plan, July 2017



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2. 2015 Metrobus Facilities Plan Study, August 2016
3. Asset (Bus Shelter) Improvement Evaluation Study, June 2013
4. On-street Bus Terminal Study, March 2013
5. Guideline for the Design and Placement of Transit Stops, December 2009
6. Metrobus Operator Restroom/Break Room Facilities Study - Ongoing
7. Asset Replacement and Customer Facility Enhancement Plan – Started May, 2018.



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2 Operating and Maintenance Facilities Existing Conditions Summary

2.1 Current Operating and Maintenance Facilities

Metrobus vehicles are operated and maintained at nine operating and 11 maintenance facilities. Four operating and five maintenance facilities are located in the District of Columbia, currently three operating and four maintenance facilities in Maryland and currently two operating and maintenance facilities in Virginia. WMATA's existing operating/maintenance capacity is 1,691 buses. With the near-term plans for additional facilities at Cinder Bed Road and Andrews Federal Center, overall capacity will increase to 1,876 buses. WMATA has a current capacity of 160 articulated buses based at four divisions. This capacity will increase to 213 with the addition of the two new facilities, Cinder Bed and Andrews Federal Center. WMATA has a compressed natural gas (CNG) capacity of 468 buses, or approximately 29% of the FY2015 fleet which will grow by up to 250 with the completion of CNG installation at Shepherd Parkway.

Two existing support facilities provide specialized maintenance services for the Metrobus System. The Carmen Turner Facility is a heavy maintenance and training facility in Prince George's County in Maryland. Buses that are in need of major repairs are cycled through Carmen Turner Facility for major body work, paint and maintenance functions. The Bladensburg Heavy Overhaul Shop (HOS), collocated with the Bladensburg Operating Division, is a heavy repair shop that serves as the home of the Metro Heavy Maintenance Overhaul Program.

WMATA has the following plans for new and existing Bus Maintenance Facilities:

1. Two new operating and maintenance facilities are presently under construction;
 - 1.1. Cinder Bed Division, located at 7901 Cinder Bed Road, Newington, Virginia, and
 - 1.2. Andrews Federal Center Division, located at 4311 Forestville Road, District Heights, MD.
2. Existing facility at Bladensburg will be demolished, and a new building for the Bladensburg Operating Division will be constructed at this site.
3. Existing facility at Northern will be replaced with the construction of a new facility on-site.
4. Heavy Overhaul Shop to be relocated from Bladensburg to Andrews Federal Center.
5. Installation of CNG facility at Shepherd Parkway Division.
6. Existing facility at Southern division is planned for closure after completion of the previously mentioned garage projects.
7. Existing facilities at Western is under consideration for replacement on-site.
8. Miscellaneous facility upgrades and renovations at other garages.



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Cinder Bed Division is planned as a replacement for the recently closed Royal Street Division (2014). Cinder Bed Division will be located along Cinder Bed Road in the Newington area of Fairfax County. This facility is planned to house 113 buses (95 standard 40 feet and 18 articulated buses), an increase in capacity over the 77 buses previously stored and maintained at Royal Street. It is anticipated that this facility will open in December, 2018.

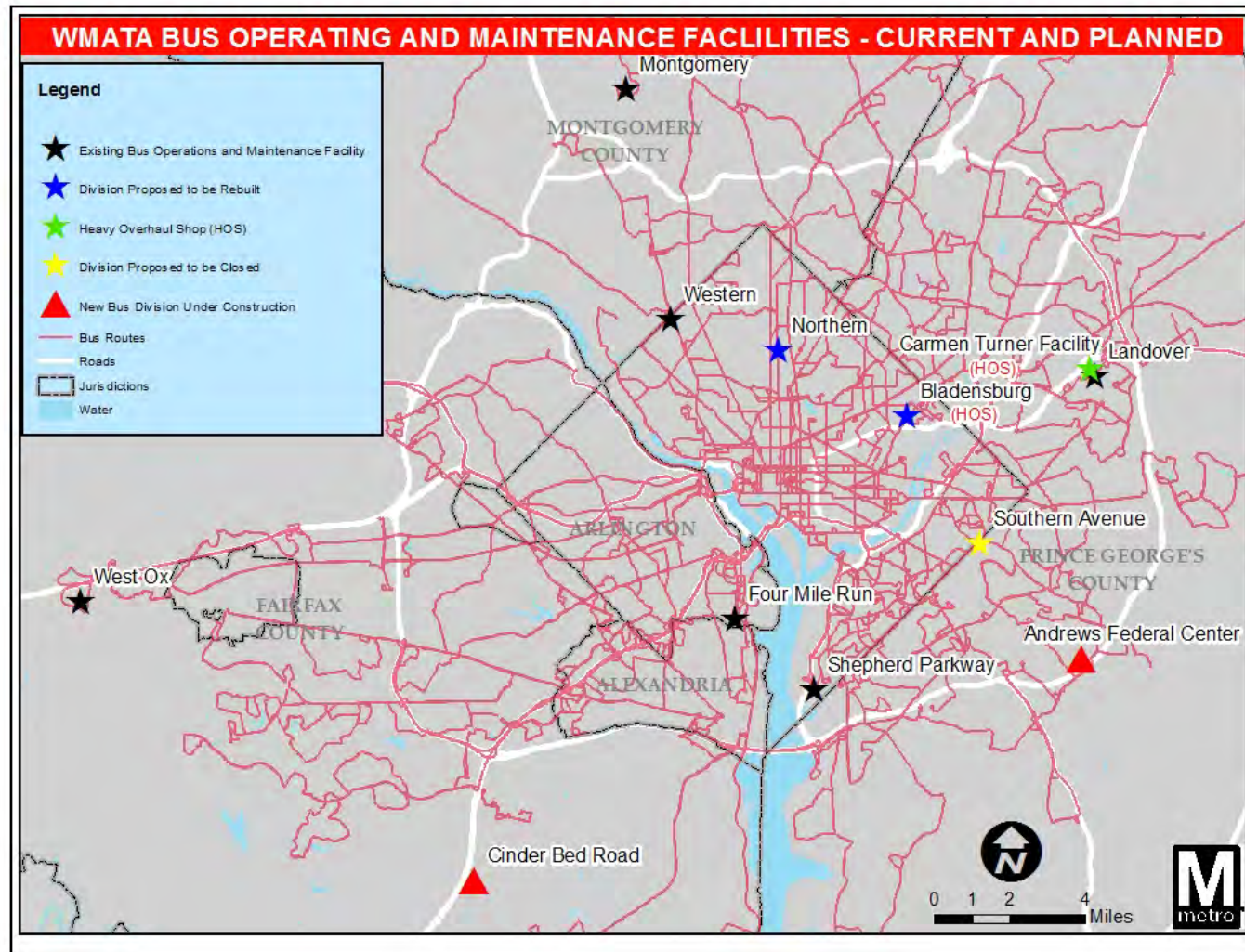
A replacement for Southern Avenue Division is planned at Andrews Federal Center in Southern Prince Georges County. This facility is planned to have a capacity of up to 175 buses (140 standard and 35 articulated buses). This is significantly higher than the 103 buses currently stored and maintained at Southern Avenue Division. WMATA anticipates this facility being completed in 2019.

The operating and heavy repair facility at Bladensburg is anticipated to be closed in 2019. The existing buildings will be demolished and a new operating division garage will be constructed on the site. The heavy repair functions will be permanently relocated to Andrews Federal Center.

Northern Division operating and repair facility is anticipated to be closed by 2019. The existing buildings will be demolished and a new operating division garage will be constructed on the site with expanded capacity to handle articulated buses. A map showing the location of existing and new facilities is presented in **Figure 1**.

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Figure 1: Current and Future WMATA Metrobus Operating Facilities





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2.2 Major Constraints

The Metrobus Facilities Plan Study conducted a physical examination of the operating and maintenance facilities, interviewed managers, met with stakeholders and identified the following major constraints:

1. Some of the facilities are very old with chronic electrical and fire alarm issues, water intrusion, ventilation and access control problems, and old storage tanks. This resulted in functional deficiencies and deteriorating building conditions.
2. Some safety and security concerns were identified and long term remediation needed.
3. Articulated bus storage and maintenance capacity is lacking to meet the service needs of the core areas. This has led to some articulated bus routes to operate out of distant divisions.
4. The location of some existing and planned maintenance facilities, at a distance from the service area, increase vehicle miles traveled, and concomitantly increases the number of operators needed to provide service, the consumption of fuel, the frequency of maintenance inspections, the use of consumables, and the number of mechanics required to maintain the fleet. The lack of sufficient maintenance capacity at the regions core has resulted in operational inefficiency, close to 28% of total vehicle miles currently travelled are in non-revenue service.
5. Lack of facilities equipped to maintain Compressed Natural Gas (CNG) fleets per Metro Board fleet mix policy guide of 50% CNG and 50% Hybrid.
6. Insufficient bus parking dimensions in some facilities create safety and operational efficiency challenges as they do not provide enough clearance space for testing ADA ramps without moving the bus, vehicle movement, mirrors and safe passage of personnel. In addition, insufficient bus parking dimensions impact operational capacity.
7. Several facilities have gasoline underground storage tanks directly adjacent to buildings which is a safety concern. It would be desirable to have them at a greater distance from buildings.
8. Replace outdated fare collection vaults in service lanes.
9. Implement a key card system to operate non-revenue service fuel pumps.

The 2013 Asset (Bus Shelters) Improvement Evaluation Study and other bus customer facilities assessments have identified the following constraints:

1. Very old shelters (approaching 40 years-of-age) with rust, damaged Plexiglas panels, structural cracks, and paint chips.
2. Lack of capital investment to maintain and renovate the old off-street bus loops.
3. Lack of suitable bus bays and layover areas in many service areas.
4. Issue of real-time bus service information to riders.
5. Insufficient CCTV across the network to enhance customer security.
6. Lack of bus operator restrooms and break rooms.



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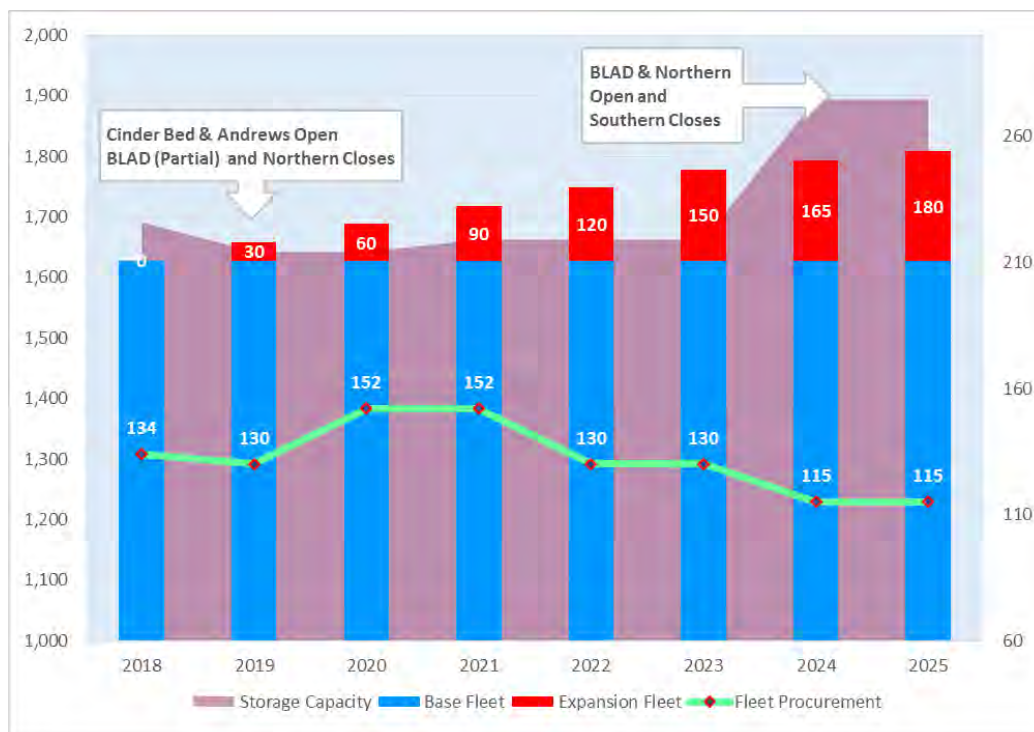
3 Operating and Maintenance Facilities Summary of Identified Needs

This section summarizes findings regarding Metrobus operating and maintenance facility need for storage of the projected fleet, running repairs and maintenance capacity and individual facility considerations.

3.1 Storage Capacity

As of December 17, 2017, Metrobus had a total of 1,583 assigned buses of which 1,258 are peak vehicle requirement (PVR), 195 spares and 130 are used for special projects and ready reserve. The expansion of the fleet supply based on the 2017 Metrobus Fleet Management Plan is used to assess storage capacity needs. The 2017 Metrobus Fleet Management Plan projected the fleet supply based on planned fleet procurement for replacement and a moderate fleet expansion for each year. The fleet plan projected a total fleet expansion amounting to 180 buses until 2025. **Figure 2** presents the projected total fleet supply compared to the system storage capacity for each year until 2025 together with the total fleet and expansion fleets for each year. The chart shows that the fleet supply starts to climb above the storage capacity beginning 2019 when Northern fully and Bladensburg partially are closed for reconstruction. The storage capacity starts to climb above the fleet supply beginning 2024. The system capacity take into account divisions closing for rebuilding and new divisions to open, as shown below.

Figure 2: Projected Bus Fleet Supply, New Fleet Procurement and Storage Capacity





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3.2 Maintenance Capacity

Maintenance capacity is assessed using fleet-to-bay ratio. The target capacity is 12:1 fleet-to-bay ratio. Using the division operating schedule, and projected fleet supply size from the 2017 Metrobus Fleet Management Plan, the system-wide bus:bay ratio is shown in **Table 1**. Overall, the system is expected to have sufficient capacity to perform required maintenance, as the overall ratio is under the target of 12:1. Individual divisions may become more constrained for maintenance capacity, depending on bus allocation and the unique needs of the CNG and articulated fleets maintenance requirements.

Table 1: Projected Maintenance Demand (Bus:Bay Ratios)

Year	Projected Fleet Supply	Available Bus Bay Capacity	Bus Bay Demand (@12:1)	Spare Bus Bay Capacity
2018	1,628	150	136	14
2019	1,658	169	138	31
2020	1,688	169	141	28
2021	1,718	169	143	26
2022	1,748	156	146	10
2023	1,778	156	148	8
2024	1,793	162	149	13
2025	1,808	175	151	24

Note: All ratio figures are rounded to the nearest whole number

3.3 Existing Facilities

This section identifies actions that should be considered to improve safety and functional efficiency in existing bus operating facilities.

3.3.1 Northern Division

Northern Division is located on 14th Street NW between Buchanan Street NW and Decatur Street NW in Washington, DC. Northern Division is one of the four divisions where articulated buses are stored and maintained. Northern Division serves as an operating base that performs day-to-day maintenance functions and heavy maintenance functions are not conducted at Northern Division. Northern Division has a capacity for 155 small/standard buses and 20 articulated buses with a total capacity of 175 buses. Northern Division has a total of 13 maintenance bays, two of which are used for articulated buses.

The 2015 Metrobus Facilities Plan Study considered the future relocation of the Northern Bus Division facility on various sites in the District of Columbia and concluded to retain and rebuild on the existing



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site. The existing facility is functionally obsolete and costly to operate. It is located in a low-density residential community and the neighbors complain about noise and diesel fumes. Remedies for the functional deficiencies identified in this section would require extensive reconstruction if accomplished within the current facility. Facility modification needs include:

1. Service lanes slope downward, causing a risk of rolling if brakes are not engaged properly.
2. The facility has multiple access points along its perimeter, creating access control challenges.
3. Only two of the 13 bays are large enough to service articulated buses; this limits the maintenance capability of the division.
4. Site circulation is clockwise rather than the preferred counter-clockwise direction. Counter-clockwise circulation would enable better visibility out of the driver's side window while turning.
5. There are multiple level changes within the building.

3.3.2 Western Division

Western Division is located near the intersection of Jenifer Street NW and 44th Street NW in the Friendship Heights neighborhood of Washington, DC. Western Division serves primarily as an operating base, and also performs day-to-day maintenance functions. Heavy maintenance functions are not conducted at Western Division. Western Division has a capacity for 138 standard sized buses and has a total of 14 maintenance bays. Facility modification needs include:

1. Vehicle servicing circulation should be modified to alleviate constricted turning in the approach to the fueling lanes, thereby preventing incidents where buses strike building structures and servicing equipment while entering the building.
2. Bus parking is insufficient in terms of quantities, configuration, and dimensions leading to accidents.
3. Expansion of the shop mechanic's cafeteria in the maintenance building should be considered to relieve crowding.
4. The recently-upgraded CCTV system should be extended to the south end staff parking lot so that this area can be monitored by the lead-person office clerk who is responsible for that area.

3.3.3 Bladensburg Division

Bladensburg Division is located on Bladensburg Road NE at 26th Street NE in Washington, DC. Bladensburg Division is one of the four divisions where articulated buses are stored and maintained and is one of the two divisions that is equipped to fuel CNG buses. The Bladensburg site serves as both an operating base and a heavy maintenance facility. Bladensburg Division is the largest of the WMATA Metrobus operating and maintenance divisions and has a capacity for 257 buses; 21 small buses, 214 standard size buses, and 22 articulated buses. There are a total of 26 maintenance bays, three of which are used for articulated buses. The heavy maintenance section, conducted in the Heavy Overhaul Shop



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(HOS), undertakes the Mid-life overhaul functions which is an integral part of the preventative maintenance program. It provides for the rehabilitation of bus mechanical and electrical systems, including overhaul of the engine, transmission, and other structural components. It incorporates new technology and provides safety enhancements.

Bladensburg Division is slated for reconstruction after the completion of the new Andrews Federal Center Division. If the division remains open for service beyond 2019 the following improvements should be considered.

1. Obsolete Closed Circuit Television (CCTV) security system should be replaced with the VERINT platform.
2. Replace front gate guard officer with a card access system for permitted personnel.
3. For better pedestrian safety, reconfigure the stop sign at the guard gate and provide protected employee shuttle drop-off location.
4. To improve operations, a reconfiguration of the bus wash flow path is recommended.
5. Low natural gas pressure feed from the supply lines is restricting production of compressed natural gas (CNG) during cooler temperatures.
6. Resolve the lack of onsite Privately Owned Vehicle (POV) parking

3.3.4 Shepherd Parkway Division

Shepherd Parkway Division was constructed and opened in 2012 and is located near the intersection of Blue Plains Drive SW and DC Village Lane SW in southwest Washington, DC. Shepherd Parkway Division is one of the four divisions that can store and maintain articulated buses. Shepherd Parkway Division serves solely as an operating and maintenance base with heavy maintenance functions performed at other facilities. Shepherd Parkway Division has a capacity for 250 buses; including 80 articulated buses, although there are currently no articulated buses based at this division. There are a total of 26 maintenance bays, six of which can be used for articulated buses. A new CNG fueling facility is under construction at Shepherd Parkway which will add new capability to support the CNG fleet during the closure and reconstruction of Bladensburg Division. Facility modification needs include:

1. Develop and implement measures to reduce risk of collisions at the entrance gate. The entrance gate is shared by revenue vehicles and POVs. This causes crossing conflicts between exiting buses and entering Privately Owned Vehicles (POV).
2. Improvements to the intersection of Blue Plains Drive SW and Shepherd Parkway SW with wider lanes and improved sight lines and turning radius. The deficiency of the intersection has been identified as a significant operational delay and safety hazard.
3. A corrective measure should address hazardous ice build-up on the POV parking ramp and deck, and ice and snow build-up on the pedestrian bridge.



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4. Consider relocating the shop supervisor offices. In the maintenance building, shop supervisors are located across the building from the shops and are operationally isolated from the shop floor.
5. Install CNG fueling facility.

3.3.5 Southern Avenue Division

Southern Avenue Division is located near the intersection of Southern Avenue and Marlboro Pike in Prince George's County Maryland, near the District of Columbia border. Southern Avenue Division serves solely as an operating and maintenance base with heavy maintenance functions performed elsewhere. Metrobus services only use this facility on weekdays, with weekend services operating from other divisions. Southern Avenue Division has a capacity for 103 standard buses and 12 maintenance bays. This division was planned for closure once the new Andrews Federal Center Division opens but will remain open for capacity reason when Bladensburg and Northern divisions close for reconstruction. There are improvements to safety, security and vehicle flow from which this facility could benefit.

1. The site and building should be reconfigured to provide better vehicle flows for fueling, daily servicing and washing.
2. The aging wash equipment should be replaced, as maintenance personnel are presently required to hand-wash parts of the buses for complete coverage.
3. Relocate the fueling lanes and garage entrance away from the adjacent public street, thereby eliminating open public access into the garage, which presents security risks.
4. Add a security camera system and a 24-hour security booth at the main entrance along with card access to permitted personnel.
5. A dedicated battery charging and storage room should be created.
6. A new door be provided to enable direct access to the 2-post maintenance bays.
7. Add a chassis wash bay with vehicle lift to improve the site's functionality.
8. Reconfigure, inside building, restricted flow paths due to the low door height on Pear Street.

3.3.6 Landover Division

Landover Division is located on Pennsy Drive between Landover and New Carrollton Metrorail Stations in Prince George's County Maryland. Landover Division serves as an operating and maintenance base with heavy maintenance functions performed elsewhere. Landover Division has a capacity for 210 standard buses and 16 maintenance bays. A major service lane and storage area project was completed in 2016 that will improve operations of the facility. Additional facility modification needs include:

1. Replace the perimeter Closed-Circuit Television (CCTV) security system, and repair of the access gate at the POV parking lot.



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2. Reconfigure lot circulation and flow pattern designs should consider constraints due to the on-site driver training program, and potential return of the driver certification course currently held at Landover Metrorail station.
3. Ventilation system should be replaced to provide better heating and cooling.
4. Building expansion and the addition of three-post lifts would be required to accommodate articulated buses to meet fleet plans.
5. Lifts in the Bus Maintenance Building have had reliability problems, monitor and consider earlier replacement.

3.3.7 Montgomery Division

Montgomery Division is located on Marinelli Road between Citadel Avenue and Nebel Street near White Flint Metrorail Station in Montgomery County, Maryland. Montgomery Division is one of the four divisions that can accommodate articulated buses. Montgomery Division has a capacity for 240 buses, including 20 articulated buses. The Division has a total of 17 maintenance bays, three of which are used for articulated buses. Montgomery Division is scheduled for a replacement and rebuilding of its HVAC, bus maintenance, industrial, mechanical, electrical equipment's, safety, security and communications systems. Capital improvement needed for facility modification include:

1. Addition of street traffic-light signalization at the Marinelli Road entrance
2. Improved parking lot and maintenance bay lighting.
3. A replacement of the chassis wash parallelogram lift.
4. Proper access to the ventilation fans at the maintenance bays.
5. Increase the size of the shop lead persons' office by adding a mezzanine space.

3.3.8 Four Mile Run Division

Four Mile Run Division is located on South Eads Street between Four Mile Run and 32nd Street South in Arlington County, Virginia. The project site is split by South Glebe Road and the site was reduced in size due to adjacent roadway widening in the 1980's.

Four Mile Run Division is currently the only division in Virginia from which buses operate during weekends. This division is also one of the two divisions where CNG buses can be fueled, stored, and maintained and therefore has a dedicated fleet of CNG-powered buses that are currently being replaced with newer models.

Four Mile Run Division serves solely as an operating and maintenance base with heavy maintenance functions performed at other facilities. This Division has a storage capacity of 218 buses, 17 maintenance bays, and the facility was modified in 2004 to store and maintain CNG buses.



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Buses are stored in two separate lots flanking South Glebe Road. The main bus lot is on the Maintenance Building site to the north, with a remote lot to the south that accommodates approximately 100 buses. The remote parking site is located adjacent to the Dominion Virginia Power Glebe Substation. Currently Dominion Virginia Power has project for a new, approximately 2-mile 230kV underground transmission line from its existing Glebe Substation in Arlington to Pepco's existing Potomac River Substation in Alexandria. Dominions' undergrounding project work is anticipated to take up to two years. The remote parking may need to be relocated during this period and its future can't be committed until the undergrounding work is completed.

Facility modification needs include:

1. Lifecycle replacement of CNG plant.
2. An upgrade to the security of the remote Bus and POV parking lots.
3. A new, safe drop-off location should be established, for the shuttle bus from remote POV parking, outside the lot fence.
4. Extra time is required to park the buses at night due to inadequate bus storage capacity. Buses must be parked in tight configurations, resulting in delays in the parking process. Acquire or lease additional space to achieve a more accessible parking layout.
5. Increased space for tool box storage is required to improve maintenance shop efficiency.
6. Replacements for all exhaust fume hose reels.
7. An investigation of the adequacy of the heating system and insulation of the vehicle wash and fueling building is. Roof upgrades should also be considered for this same building.
8. To provide more service bays to meet the preferred fleet-to-bay ratio of 12:1, consider better utilization of the triple-length bay in the maintenance building.
9. The existing five-bus-long body shop at the service building should be considered for conversion to maintenance bays.

3.3.9 West Ox Division

West Ox Division is located on Alliance Drive between Piney Branch Road and Fairfax County Parkway in Fairfax County, Virginia. This facility is owned and managed by Fairfax County and WMATA is in the 10th year of a 50 year lease. Metrobus services only use this facility on weekdays, with weekend services operating from other divisions. West Ox Division serves solely as an operating and maintenance base with heavy maintenance functions performed elsewhere. This Division has a storage capacity for 100 buses with nine maintenance bays. Fairfax County has expanded the facility and relocated WMATA's designated bays to the newly expanded portion of the building. This location replaced the former Arlington Division.

West Ox Division is in a state of good repair with no significant deficiencies.



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3.4 Future Considerations

3.4.1 Capacity for Operation and Maintenance

The future capacity analysis shows a minor storage capacity constraints in 2022 and 2023 resulting from the projected fleet growth. Current parking widths, in many of the facilities, fall short of what is needed and increasing the parking width will create further capacity constraints. However, the addition of two new operating divisions in FY2019, Cinder Bed Road and Andrews Federal Center, provides additional capacity for Metrobus that can accommodate the full closure of Northern and partial closure of Bladensburg.

With the completion of the reconstruction of Northern and Bladensburg Divisions bus parking capacity for Metrobus will increase from 1,691 in 2018 to 1894 in 2025. During the reconstruction of Bladensburg and Northern division's storage capacity shortages are prevalent. The challenge for Metrobus also remains that sufficient capacity have not been created to support for the growing service demand operating in the downtown core service area. To overcome this an additional new division will be required.

Table 2 presents existing and planned bus fleet supply compared to the system-wide storage capacity.

Table 2: Existing and Planned Bus Fleet and Storage Capacity

Year	Base Fleet	Planned Fleet Expansion	Fleet Procurement			Total Fleet Planned	Storage Capacity	Storage Capacity Balance
			Standard	Artics	Total			
2018	1628	0	134	0	134	1628	1,691	63
2019	1628	30	120	10	130	1658	1,643	(16)
2020	1628	30	120	32	152	1688	1,643	(46)
2021	1628	30	120	32	152	1718	1,663	(56)
2022	1628	30	120	10	130	1748	1,663	(86)
2023	1628	30	120	10	130	1778	1,663	(116)
2024	1628	15	115	0	115	1793	1,894	101
2025	1628	15	115	0	115	1808	1,894	86

The 2015 Metrobus Facilities Plan Study conducted a spatial analysis to select appropriate locations (based on zip codes) for the construction of potential new facilities, based on improving operational efficiency, minimizing deadhead and operator relief costs. The high number of deadhead movements to and from Silver Spring Metrorail Station resulted in the zip code containing Silver Spring Metrorail being an ideal location for a new operating division. The construction of a new facility in the Silver Spring area



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will provide support and capacity for services operating in Northern Prince Georges and Eastern Montgomery, improve service efficiency and reduce deadheading costs.

Montgomery County is planning to expand its transit network to support the County's land use, environmental, and economic development goals. Towards this end the county has approved a 102-mile bus rapid transit (BRT) network comprising 10 corridors in addition to the Corridor Cities Transitway (CCT). Three corridors, Veirs Mill Road (MD 586), Colesville Road (US 29), and Rockville Pike (MD 355), are currently undergoing more detailed analyses. It is anticipated that the BRT services will be using articulated buses which require new storage and maintenance facility.

Montgomery County has indicated that they are planning to close the Nicholson Court, Small Transit Shop. Therefore, the development of a new facility should consider the total bus storage and maintenance needs of the region. Shared facilities could be a good way to serve the needs of both Metrobus and Ride On due to the overlapping service areas. Metro has built a successful working experience of sharing facilities with Fairfax Connector at West Ox Division and the new facility in the Silver Spring area could be built to serve the needs of both Metrobus and Ride On.

3.4.2 Articulated Bus Service

In major corridors where there is additional ridership demand and overcrowding problems, Metrobus is planning to increase the use of articulated 60' buses in place of the standard 40' buses. Among the corridors that could benefit from the usage of additional artic buses are listed below.

Table 3 presents bus corridors that could benefit from the expansion and conversion to artic bus service.



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Table 3: Corridors Identified for Expansion and Conversion to Articulated Bus Service

No	Corridor	PVR
1	16th Street (DC)	53
2	Columbia Pike (VA)	43
3	Anacostia/Congress Heights (DC)	41
4	Wisconsin Avenue (DC)	31
5	14th Street (DC)	29
6	Pennsylvania Avenue (DC/MD)	29
7	Colesville Road (MD)	28
8	Georgia Avenue/7th Street (DC)	27
9	H Street / Benning Road (DC)	27
10	U Street – Garfield (DC)	27
11	University Boulevard (MD)	21
12	Georgia Avenue (MD)	17
13	Veirs Mill Road (MD)	15
14	Leesburg Pike (VA)	14
15	Riggs Road (MD)	11
Total		413

The focus of the future plan is to convert some of the services in these corridors into a fully articulated bus service operation during all time periods and use artics selectively on others to address crowding and capacity issues. The expansion of articulated services to a large extent depends on the availability of storage and maintenance capacity in the core service area. Converting standard buses to articulated service will necessitate expansion of the articulated bus fleet and support capabilities.

The 2017 Fleet Management Plan projected the number of articulated buses will increase from 65 to 135 by 2025 of which 10 additional artics to be delivered in 2019. In order to efficiently implement the planned expansion of artic services, a corresponding increase in artic storage and maintenance capacity in the down town DC area would be required. It is anticipated that the storage and maintenance capacity for articulated buses may be increased from the current 40 to 75 when Northern Division is reconstructed.

Table 4 presents current and projected total articulated bus fleet.



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Table 4: Current and Projected Articulated Bus Fleet

Division	Articulated Fleet		
	Current	2020	2025
Bladensburg	25	25	-
Montgomery	19	19	-
Northern	21	21	-
Shepherd Parkway	-	20	-
New Bladensburg	-	-	45
New Northern	-	-	50
New Montgomery	-	-	40
Total	65	85	135



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4 Operating and Maintenance Facilities Recommendations

The 2018 Metrobus Facilities Plan recommendations are put forward, both system wide and for individual operating divisions, to address the list of identified deficiencies. The recommended capital improvements would improve operational efficiency and address major State of Good Repair issues. The recommendations are listed below. **Table 5** provides the planned new and realigned Metrobus facilities.

4.1 System-wide Recommendations

This section identifies needs that apply to most or all of the existing bus operating divisions:

1. Implement WMATA's proposed policy of requiring 14'-0" minimum bus parking stall width in all new construction. The 14' dimension provides space for testing ADA ramps without moving the bus, and more clearance for vehicle movement, mirrors and safe passage of personnel. System-wide restriping is not presently under consideration because of the loss of storage capacity that would result. However, when restriping individual facilities, consideration should be given to increasing the dimension, perhaps in a limited number of locations.
2. For new construction, enforce WMATA's current policy of limiting back-in bus parking to two buses deep.
3. Establish system-wide criteria for site perimeter control at operating divisions and heavy maintenance facilities. Potential improvements under this category include: access-controlled turnstiles with key card access¹ and provisions for access by persons with disabilities, and motion or fence perimeter sensors to detect unauthorized personnel.
4. Upgrade service lane and bus facility cameras to replace all existing analog Closed Circuit Television (CCTV) cameras with Ethernet based technologies. Upgrade should include standardizing the video management software (VMS) with video analytics from VERINT to actively process live or archived video systems. In addition, upgrade should include modification of analog video servers with digital servers and increase the video storage capacity.
5. Replace fare collection vaults in service lanes. This would likely be part of a system-wide fare collection replacement program.
6. Implement a key card system to operate non-revenue service fuel pumps. This would avoid circulation problems at several facilities. At present, parked vehicles outside the key pickup locations block circulation, and in some cases force staff to cross bus access lanes.

¹ This would require resolution of Authority-wide policy regarding use and management of the cards and access points.



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7. When planning new or renovated Transportation offices within operating divisions, reserve enough office space for Field Supervisors and a location for physical exercise to promote employee wellness.
8. Add storage at multiple facilities to support the Sign and Shelter Crew. This crew is presently based at the Carmen Turner Facility (they will relocate to Andrews when it opens), and better distribution of storage facilities would improve the efficiency of their operations.

4.2 Retain and Rebuild Northern Division

The present location of Northern Division is very efficient in terms of its location relative to the location of deadhead points that are served. The location itself serves as a route terminal point for the 50s Line, which operates along 14th Street. There are a number of lines assigned to this division that would be candidates to utilize articulated buses, including certain routes that would logically be stored at this facility however there is no space to store and maintain buses for the service such as Route 70. The current division is located in an ideal location to store and maintain buses that serve high demand routes in central DC.

The 2015 Metrobus Facilities Plan Study evaluated the operational and efficiency effects of relocating Northern Division. The analysis indicated that moving the current Northern division to the alternative locations results in a 30% – 50% increases in annual operational cost. It confirms, therefore, the operational benefits of the current site and the need to retain the existing Northern Division.

The deteriorating condition of this facility requires an urgent action for rebuilding the facility. The recommended plan is to build to 140 bus capacity with capability to support up to 70 articulated buses.

4.3 Retain and Rebuild Western Division

The Western Division site is operationally efficient. At a timeframe yet to be determined, Western Division is slated to be redeveloped as a joint use site. This recommendation is to maintain a Metrobus operations and maintenance division as part of development in the vicinity of this location that is approximately the same size.

4.4 Rebuild Bladensburg On-Site

Bladensburg is programmed for reconstruction in the short-term (2019). It is slated to re-open in 2023, which is in the mid-term period. Various alternatives were evaluated and the recommendation is to build Bladensburg as a 275 – 300 bus capacity division. The rebuilt Bladensburg will have 25 maintenance bays, multiple points of access for ingress and egress, parking space to handle 300 buses,



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on-site employee parking lot, utility and CNG fueling capacity to support the maximum capacity of the facility.

4.5 Potential New Division and Shared Facilities

To improve operational efficiency, minimize deadhead and operator relief costs a spatial analysis, for selecting appropriate locations, was conducted (based on zip codes) for the construction of one or more potential new facilities in the 2015 Metrobus Facilities Plan Study.

The high number of deadhead movements to and from Silver Spring Transit Center (SSTC) resulted in the zip code containing SSTC being an ideal location for a new operating division. This is due to the large number of services operating in the area and their potential to have the greatest impact on reducing deadhead movements. Currently there are 21 lines with 32 route variations operating in the Silver Spring area. These routes have a combined peak vehicle requirement of over 220 buses. The lines operate from four different divisions, Bladensburg, Landover, Montgomery and Northern which contributes to the high number of deadhead movements with higher operational cost and lower service reliability. To address this operational problem a new operating division in the Silver Spring area close to the Prince George's/Montgomery County borders is recommended. **Figure 3** presents the general location for the future new operating division.

The development of a new facility should consider the total bus storage and maintenance needs throughout the region. Besides the need in Metrobus services, the locally-operated systems will experience growth and may have additional bus storage and maintenance needs. Shared facilities may be a good way to serve the needs of both Metrobus and local operators due to overlapping service areas. Metro has built a successful working experience of sharing facilities with Fairfax Connector at West Ox Division. A facility in the Silver Spring area could not only serve the Metrobus fleet but could also be used as a shared facility with Ride On or The Bus since it would be very close to the Montgomery County/Prince George's County border.

Metro has had an initial exchange of ideas with Montgomery County on the possibility of developing a shared facility in the Silver Spring area. Montgomery County has an interest of closing the Nicholson Court, Small Transit Shop and replacing it with a new facility. Metro will continue the discussion to affirm our common interest and develop a plan that will support both Metrobus and Ride On fleets in a shared facility.

4.6 Capital Improvement Needs for Existing Divisions

This section presents capital improvement recommendations for each operating division.



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4.6.1 Northern Division

The recommendations in this section could be implemented only as part of a major reconstruction.

1. Design most or all service bays to accommodate articulated buses; this would allow the division to better serve nearby downtown routes.
2. Set structural column spacing to support 14' minimum stall width
3. Place service lanes on level paving so as to minimize the risk of rolling buses.
4. Minimize the number of access points along the perimeter to allow for proper access control.
5. Design the facility with counter-clockwise circulation to improve operators' visibility while turning.
6. Minimize the number of level changes within bus circulation and parking areas.

4.6.2 Western Division

Near-term functional and Building Condition/State of Good Repair (SOGR) improvement recommendations for Western Division include:

1. Modify bus service circulation to avoid turning movement constraints when approaching the fueling lanes. This would reduce the number of incidents where buses strike building structures and servicing equipment while entering the building. One possible solution in this regard would be to widen the Jenifer Street gate, and transition the flow path out to 44th Street NW, then back into the lot from Jenifer Street NW during servicing hours. Jenifer Street is not reported to have traffic congestion during bus servicing hours, and this would improve bus access to the fueling lanes.
2. Extend the CCTV system to the south end staff parking lot so that this area can be monitored by facility security staff responsible for that area.
3. Expand the shop mechanic's cafeteria in the maintenance building to relieve crowding.
4. Initiate a comprehensive renovation and repair program to address serious building envelope deficiencies at the Bus Maintenance and Service Lane buildings.
5. Repair and restore masonry veneer at exterior of both the Bus Maintenance and Service Lane buildings. As previously noted, falling bricks due to veneer failure at the Service Lane Building present a hazard to personnel. This problem at the service bay should be immediately addressed, and access to the area should be limited as noted in Technical Memo 1.
 - a. Remove and replace single-ply roofing at east wing of Bus Maintenance Building.
6. Initiate a comprehensive investigation and repair program to address mechanical and electrical deficiencies at the Bus Maintenance and Service Lane buildings.



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4.6.3 Bladensburg Division

Bladensburg Division is slated for complete reconstruction and many of the recommendations in this section would be implemented only as part of this major reconstruction. The planned closure of Bladensburg Division, for reconstruction, requires a new CNG fueling capacity in order to provide service for CNG fleets that are currently operating at Bladensburg. Metro is in the process of building a new CNG fueling facility at Shepherd Parkway, to accommodate the future fleet relocation from Bladensburg. The gas pipeline construction project, done by Washington Gas, has been in the making since 2016. Metro anticipates the CNG facility at Shepherd Parkway to be ready for operation before the closure of Bladensburg Division. Some of these improvements may also be considered if the plan is changed and the division stays open beyond the planned closure date.

1. Replace the obsolete analog Closed Circuit Television (CCTV) security system with an Ethernet based system using the VERINT VMS platform. The front gate, which now relies on an officer, should also be monitored with an access control system for authorized personnel, allowing gate security personnel to focus on site monitoring.
2. For better pedestrian safety, a new configuration of the stop sign at the guard gate and a protected location for employee shuttle drop-off should be considered.
3. Reconfigure the bus wash flow path to reduce tight turns that currently cause the operators to either run into the interior wall or to damage bus wash lane actuators as they backup to perform three-point turns.
4. Work with Washington Gas to develop and implement a strategy to enable pressuring up CNG tanks more quickly.
5. Provide more onsite parking for Privately Owned Vehicles (POV).
6. Improve vehicle flows into and out of the site with the addition of more entrances and exits to perimeter streets.

4.6.4 Shepherd Parkway Division

Facility modification needs include:

1. Implement the planned improvements to Blue Plains Drive and Shepherd Parkway with wider lanes and improved sight lines and turning radius at the intersection of the two roadways. The deficiency of the intersection has been identified as a significant operational delay and safety hazard.
2. Develop and implement measures to reduce risk of collisions at the entrance gate. As currently configured, this gate is shared by revenue vehicles and POVs. This causes crossing conflicts between exiting buses and entering POVs. Corrective measures may include: warning signage and signals, or adding a separate entrance for buses.



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3. Develop and implement corrective measures to address hazardous ice build-up on the POV parking ramp and deck. Add windscreens to the pedestrian bridge to reduce ice and snow build-up. Consider a snow melt system to prevent ice buildup on the POV parking ramp and deck.
4. Relocate the shop supervisor offices in the maintenance building so that they are closer to the shop floor, and reduce or eliminate the present dead-end hallway leading to these offices.

4.6.5 Southern Avenue Division

This facility is slated to close in 2023, and there are at present no plans to reconstruct the facility. In the interim, potential improvements to address current issues not requiring major modifications to the facility include the following:

1. A security camera system would remedy the lack of CCTV coverage at the site. Re-configuration of the site entrance should include a 24-hour security booth at the main entrance along with card access to permitted personnel. Presently the site's security booth is not staffed for 24 hours.
2. Provide a new door to enable direct access to the 2-post maintenance bay that is adjacent to the primary bay door facing the vehicle storage lot. This is needed because this bay sees heavy use and is currently difficult to enter.
3. Provide an efficient mobile bus wash system capable of removing soot grime from the rear of buses. The existing wash bay equipment presently does not cover these areas adequately, requiring personnel to wash those parts of the bus by hand. Mobile wash systems can be in the form of 2-step detergent spray systems (not high pressure) or self-powered vertical brush systems guided by the operator along the target wash surface.

The closure and reconstruction of Bladensburg and Northern Divisions may require more garage facility space in addition to the new garages opened. As a result it may be necessary for Southern Avenue Division to be retained for swing space to support the anticipated closure and reconstruction works. This future consideration requires additional investment to keep the facility in a State of Good Repair. If WMATA chooses to keep the facility in operation past 2023, the following capital improvements should be considered:

1. If there were to be a major reconstruction (although none is planned at this point), reconfigure the site and building to provide better vehicle flows for fueling, daily servicing and washing.
 - a. The reconfiguration would relocate the fueling lanes and garage entrance away from the adjacent public street, thereby eliminating open public access into the garage, which presents security risks. This would also eliminate the need for vehicles to leave the lot to enter the service lanes.



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- b. Any reconfiguration should take into account the slope of the site to mitigate safety hazards caused by the sloping service lanes and vehicle storage areas.
 - c. Inside the building, reconfigurations would improve restricted flow paths due to the low door height on Pear Street.
2. Permanently replace existing wash equipment, for the reasons described above.
3. Add a dedicated battery charging and storage room.
4. Add a chassis wash bay with vehicle lift.

4.6.6 Landover Division

Functional improvement recommendations for Landover Division include:

1. Replace the existing perimeter analog Closed-Circuit Television (CCTV) security system with current Ethernet based technology.
2. Repair the access gate at the POV parking lot, which presently does not prevent non-employees from accessing the lot.
3. Monitor reliability of lifts in the Bus Maintenance Building. These lifts have had reliability problems, but none are nearing the end of their projected useful life. These units should continue to be monitored, and may be warranted for earlier replacement.

4.6.7 Montgomery Division

Functional and Building Condition/State of Good Repair (SOGR) improvement recommendations for Montgomery Division include:

1. Address conflicts at the Marinelli Road entrance by one of the following:
 - a. Traffic-light signalization; or
 - b. Require buses enter and exit the site using right turns only.
2. Improve parking lot and maintenance bay lighting.
3. Increase the size of the shop lead persons' office by adding a mezzanine space similar to the shop superintendent's office. This would provide more room for the office while providing the lead person with better views of the shop floor.
4. Replace the chassis wash parallelogram lift, as this unit is beyond its useful life and is rusted out.
5. Initiate a comprehensive investigation and repair program to address mechanical and electrical deficiencies at the Bus Maintenance building.
6. Replace HVAC unit, Switchgear, Transformers and Power Panels, install System Monitoring and Control System (SCADA), build a new equipment room and paint booth, replace two bus wash systems, build new sprinkler, etc.



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4.6.8 Four Mile Run Division

Functional improvement recommendations for Four Mile Run Division include:

1. Acquire or rent more lot space to meet demand for storage of buses assigned to Four Mile Run Division. Due to inadequate bus storage capacity, buses must be parked in very tight configurations. Because of this, the parking process at night takes longer, and arriving buses and drivers are queued waiting for lot attendants to find spaces to park the buses. Note that the intent of this recommendation is not to add storage capacity at this division, but to improve efficiency.
2. To provide more service bays to meet the preferred fleet-to-bay ratio of 12:1, Bay no. 15 should be refurbished for better efficiency and requalification as a multi-workstation bay. This is the only bay providing one-way traffic through the shop and an evaluation of potential improvements should consider modifying the present configuration to better utilize this bay as a resource. It is presently equipped with obsolete and abandoned in-ground brake test equipment and a legacy inspection pit. The inspection pit is used on rare occasions for quick troubleshoot inspections. The brake test equipment should be removed for better positioning of the one-axle tire work lifts.
3. The CNG facility requires a mid-life assessment and the current bus wash service lane roof needs to be replaced as it has structural safety issues with the trusses and/or the roof deck pans. Building a new service lanes and body shop building, replacing the bus wash systems and HVAC equipment, etc. are among the various projects targeted for implementation over the coming years.



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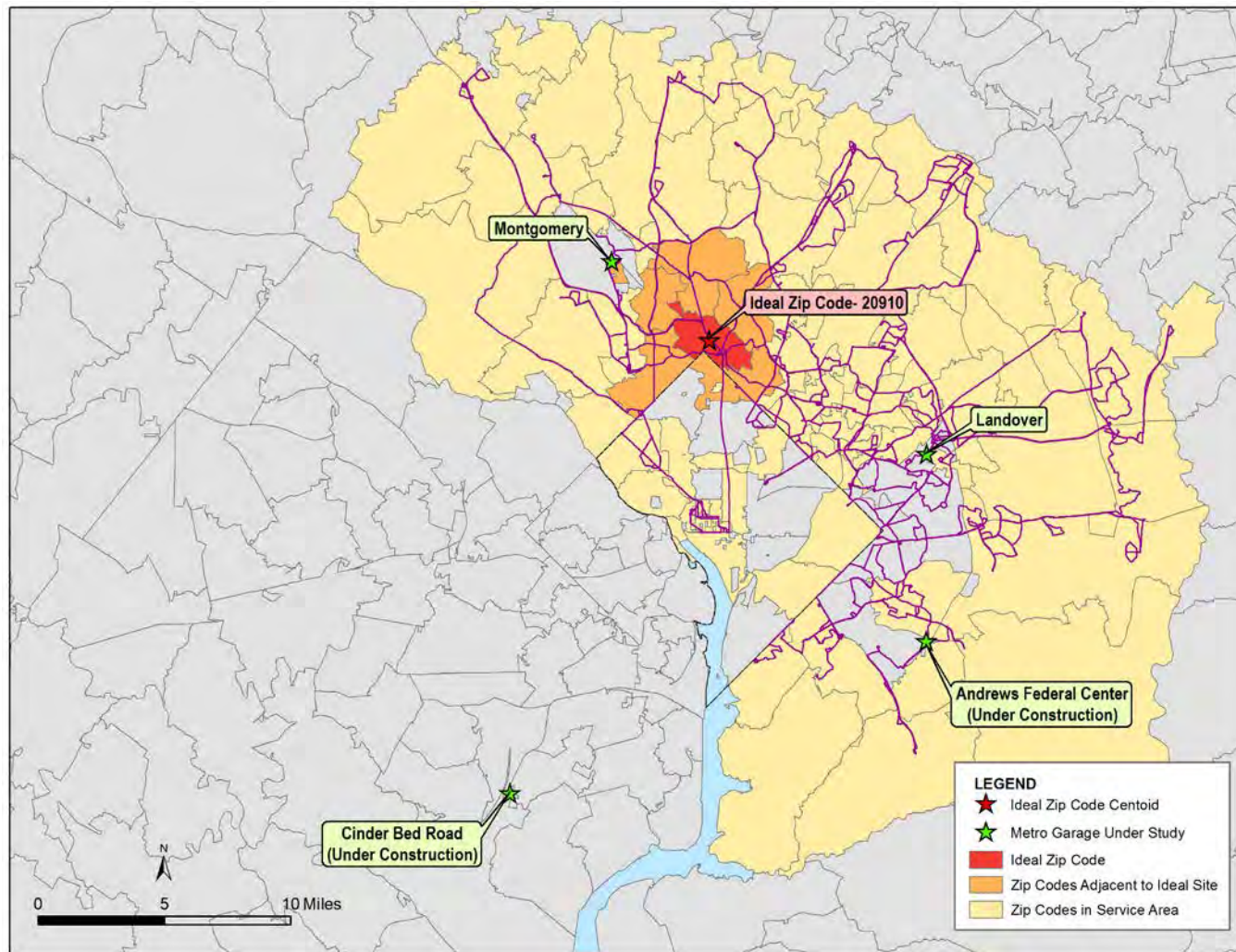
Table 5: Planned New and Realigned Metrobus Facilities

	2018	2019	2020	2021	2022	2023	2024
Cinder Bed	OPENS – 80 standard buses (From Shepherd, Four Mile & West Ox)	Opening+1 Year:	Opening+2 Yrs:			Opening+5 Yrs:	
		80 buses max, artics allowed;	100 buses max, artics allowed;			113 buses max, artics allowed;	
Andrews Federal Center		OPENS– Heavy Overhaul Shop (HOS) relocated from Bladensburg, 35 Artic capacity available					
Bladensburg (Heavy Overhaul Shop)		CLOSES – Heavy Overhaul Shop (HOS) moves to Andrews	DEMOLISHED				
Bladensburg (Operating Division)		PARTIAL CLOSURE – Portion of fleet moves to Shepherd	DEMOLISHED	CONSTRUCTION			OPENS as new Operating division
New Operating Division	Planning and design for a new operating division. New division would be based at a new site to be defined.		CONSTRUCTION		OPENS New Operating Division		
Northern		CLOSES - Fleet moves to other Operating Division	CONSTRUCTION				OPENS as new Operating division
Shepherd Parkway		OPENS CNG Fueling Facility Buses relocated from Bladensburg					
Southern							CLOSES
Western	Urban type replacement facility to be constructed near existing site - Time to be defined						
Note: Grey boxes indicate “closed” or inactive facilities and green box indicates partial closure							



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Figure 3: Ideal Location for a New Maryland Operating and Maintenance Division





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5 Bus Customer Facilities

5.1 Introduction

This section provides existing conditions and recommended actions for the various built elements that support the Metrobus experience, including bus stops, shelters, customer information, bus layover areas and operator facilities.

Following on the subject 2018 Metrobus Facilities Plan, the *Bus Customer Facility Asset Replacement and Enhancement Plan* study started in July 2018, with completion in spring 2019 for the FY2021 budget cycle development. The Asset Replacement Plan will create a comprehensive, system wide assessment and capital facility plan for all of the WMATA-owned customer-facing bus facility elements.

The Bus Customer Facility Asset Replacement and Enhancement Plan will provide recommendations that can be moved quickly into a final design and construction process as the level of capital funding available allows. The needs are large throughout the system and decades of deferred maintenance has taken its toll on the bus customer experience. This will be a roadmap for Metro to address these needs in a systematic and prioritized way and return the Metrobus customer facilities throughout the region to a state of good repair.

Metrobus Facility elements are extensive, and exist in a very dynamic atmosphere. Data presented herein for Customer Facilities are as of December, 2017.

5.2 Bus Stops

5.2.1 Existing Conditions

The customer's experience at their bus stop represents the first and last contact they have with the Metrobus service at the moment of their actual trip. WMATA has long recognized that providing accessible and easily understandable customer information is a key component of its service. Following the 2003 Regional Bus Study, WMATA developed and adopted uniform bus stop information and design guidelines as the "Guidelines for the Design and Placement of Transit Stops" published in September 2009.

Metro has 10,761 bus stops and 2,554 shelters. All Metrobus stops have bus stop flags, identifying the system and route numbers serving the stop, and over 7,000 stops have information cases displaying schedules and maps. WMATA and its jurisdictional partners work together to improve existing bus stops and make them ADA compliant. The Board of Directors' target is to improve 100 stops per year.



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1. In 2015, 255 stops were improved,
2. In 2016, 245 stops were improved,
3. In 2017, 138 stops were improved, and
4. 206 stops are currently under contract to be improved in 2018.

By policy, Metrobus ensures that new bus stops added to the system are ADA compliant but many legacy bus stops throughout the region still require construction work to bring them into compliance.

5.2.2 Needs

The 2009 “Guidelines for the Design and Placement of Transit Stops” provide Metro and its jurisdictional partners specific physical design criteria to be integrated with local comprehensive plan policies, land use ordinances, pedestrian plans, and street design.

The Metro Guidelines follow the Americans with Disabilities Act (ADA) accessibility standards for bus stops:

1. Firm landing surface
2. At least 5 feet wide and 8 feet long; and
3. Connects to the curb

To ensure that an accessible bus stop is also fully functional for the customer, Metro added a fourth criterion to its accessible bus stop standard:

4. A curb cut at the corner nearest the bus stop with a matching curb cut at (at least) one adjacent corner.

Accessible bus stops decrease dependence on paratransit service and are safer for all customers.

As of December 2017, only an estimated 25% of Metrobus stops were accessible. Metro’s ADA Planning and Policy (ADAP) is planning to undertake an inventory of current accessibility conditions at bus stops in order to identify stops needing improvement to meet the accessibility criteria’s listed above.

Metro needs additional resources and the active engagement of our jurisdictional partners to accelerate the change towards ADA complaint bus stops. Metro also needs to update approximately over 1,000 schedule panels and 45 bus maps every year to sustain customer information at various bus stops.



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5.3 Bus Stop Shelters

5.3.1 Existing Conditions

Throughout the metropolitan region there are a total of 2,554 bus shelters that serve Metrobuses. WMATA owns and maintains 523 shelters and the remaining 2,038 shelters serving Metrobuses are owned and maintained by other entities. Of the 523 shelters owned by WMATA, 425 of them are located at Metrorail stations and the remaining 98 shelters are on-street on jurisdictional right-of-way.

Table 6 provides an inventory of WMATA owned shelters by jurisdiction.

Table 6: WMATA Owned Bus Shelters by Jurisdiction

Shelter Type	DC	MD	VA	Total
Metrorail Station Shelters	69	185	117	371
Kiss & Ride Shelters	7	36	11	54
On-Street Shelters	0	15	83	98
Total Shelters	76	236	211	523

WMATA completed a \$5.5 million bus improvement project at Franconia-Springfield Metro station in 2015. The improvements expanded the capacity of the bus station by three bays (increasing it by nearly 40%) and provided amenities to enhance the customer experience, including ten large and modern bus shelters (in the new WMATA design) equipped with new real-time bus arrival display signs, sidewalk and crosswalk improvements to provide safe access. The 2014 WMATA Manual of Design Criteria specifies that new shelters shall be made of stainless steel, have transparent glass inserts constructed of tempered glass or laminated safety glazing, incorporate a stainless steel map case with an illuminated system map or neighborhood map and have roofs with skylights.

The majority of the 425 WMATA rail station bus shelters were built between 1976 and 1993. With many approaching 40 years-of-age, they now require replacement to address age and overall condition. In the 2013 study, 286 (68%) were identified as beyond their useful life and requiring immediate replacement. The main issues are rust, damaged Plexiglas panels and missing top domes, and structural cracks. The oldest sections of the Red and Orange Lines have the worst conditions. WMATA has sought funding through the FTA's Bus and Bus Facilities program to accelerate replacement as well as through the Capital Needs Inventory (CNI) process and development of the Capital Improvement Program (CIP).



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A 2013 Asset (Bus Shelters) Improvement Evaluation Study identified the bus shelters that are beyond their useful life, and developed a prioritized shelter replacement plan based on condition and bus and passenger volume.

Table 7 provides the current system wide conditions of WMATA bus shelters.

Table 7: WMATA Owned Bus Shelters Condition

Shelter Condition	Number
On Street Shelters	98
Metrorail Station Shelters	
Needing Replacement	276
Planned for Replacement	58
Shelters Replaced	46
New Shelters	20
Others	25
Total Metrorail Shelters	425
Total Shelters	523

5.3.2 Needs

A significant portion of the bus shelters at Metrorail stations require a program for replacement. Of the 425 shelters located at Metrorail stations, 334 (79%) need replacement. 58 Metrorail station bus shelters are planned for replacement by developers and other improvement projects.

Table 8 provides the Metrorail station shelters planned for replacement by others.

Table 8: Metrorail Station Shelters to Be Replaced by Others

Metrorail Station	Number	To Be Replaced
Ballston-MU	8	Arlington
Congress Heights	8	DC Govt.
College Park	5	Purple Line
Greenbelt	17	TBD
King Street	7	City of Alexandria
New Carrollton - North Side	6	Purple Line
New Carrollton - South Side	7	Joint Devt.
Total	58	



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There are 276 remaining Metrorail bus shelters that should be replaced with the modern design stainless steel shelter. A \$3.8 million FTA grant and CIP fund is available to support part of the bus shelter replacement program. Further funding source will be needed to fully implement the Metrorail Station shelter replacement program.

Table 9 presents the list of Metrorail bus shelters planned for replacement.

Table 9: WMATA Owned Bus Shelters Needing Replacement

No	STATION	Total Shelters	Year Installed	Metrorail Line	Planned Replacement Year
1	Fort Totten	11	1978	<div>RD</div>	2019
2	Brookland	10	1978	<div>RD</div>	
3	Minnesota Ave	11	1978	<div>OR</div>	
4	Rhode Island Ave	7	1976	<div>RD</div>	
5	Addison Road	5	1980	<div>SVBL</div>	
6	Huntington	12	1983	<div>YL</div>	
7	Shady Grove	14	1984	<div>RD</div>	2020
8	Takoma	10	1978	<div>RD</div>	
9	Medical Center	7	1984	<div>RD</div>	
10	Forest Glen	6	1990	<div>RD</div>	
10	Anacostia	12	1991	<div>GR</div>	
11	Rockville	13	1984	<div>RD</div>	
12	West Falls Church (S)	9	1986	<div>OR</div>	
13	Twinbrook	11	1984	<div>RD</div>	
14	Deanwood	6	1978	<div>OR</div>	
15	Naylor Road	10	2001	<div>GR</div>	
16	Southern Avenue	16	2001	<div>GR</div>	
17	Braddock Road	6	1983	<div>BLYL</div>	2022
18	East Falls Church	5	1986	<div>ORSV</div>	
19	Capitol Heights	7	1980	<div>SVBL</div>	
20	Suitland	15	2001	<div>GR</div>	
21	Wheaton	14	1990	<div>RD</div>	
22	Landover	5	1978	<div>OR</div>	
23	Cheverly	5	1978	<div>OR</div>	2023
24	Van Dorn St	8	1991	<div>BL</div>	
25	Eisenhower Ave	6	1983	<div>YL</div>	
26	Branch Ave	16	2001	<div>GR</div>	
27	West Hyattsville	8	1993	<div>GR</div>	
28	Grosvenor	11	1984	<div>RD</div>	
Total		276			



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5.4 Other Bus Customer Support Facilities

5.4.1 Existing Conditions

In addition to stops and shelters, bus customers' journeys require the use of other facilities, including bus bays at Rail stations, park and ride lots, and High Occupancy Vehicle (HOV) lanes to allow faster bus travel. Of those listed park and ride and HOV lanes are generally owned and maintained by entities other than Metrobus, but are a crucial part of the Metrobus customers' experience. Section 5.5 will present existing conditions of various transit centers served by Metrobus.

Table 10 provides an inclusive list of bus customer facilities by jurisdiction, including numbers of stops, shelters, bus bays, park and ride locations and parking spaces, and HOV lane miles.

Table 10: Bus Stop, Bus Bays, Shelters, Park and Ride and HOV Lanes by Jurisdiction

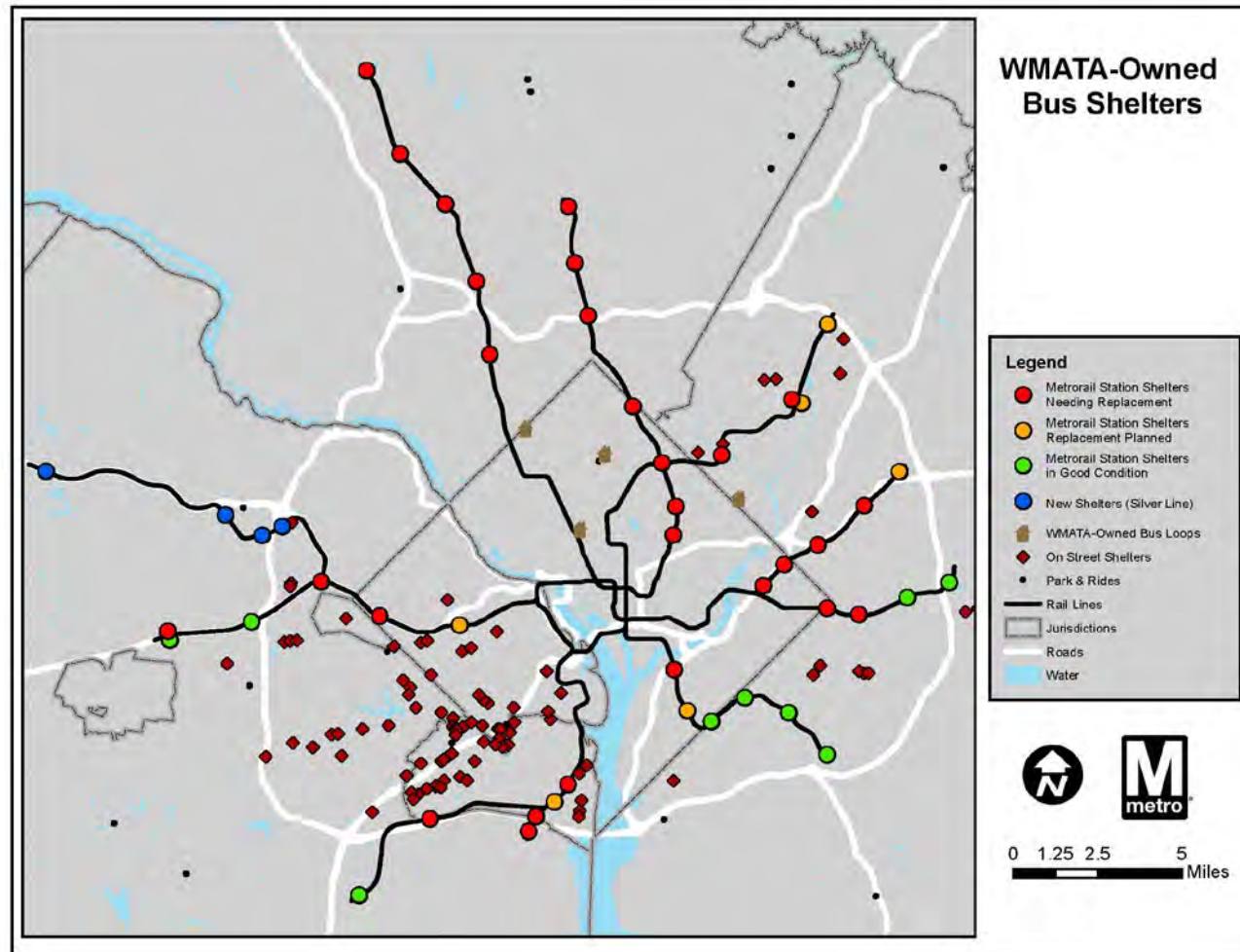
Jurisdiction	Number of Bus Stops	Number of Bus Shelters	Number of Bus Bays	Park and Ride		HOV Lanes (Miles)
				Locations	Parking Space	
District of Columbia	3,227	752	80	6	2,857	0
Maryland	4,605	1,035	196	150	83,038	20
Virginia	2,929	767	138	113	53,675	38
Total	10,761	2,554	414	269	139,570	58

A map of WMATA's bus shelters, bus loops and Park & Rides lots served by Metrobus is presented in **Figure 4**.



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Figure 4: Current WMATA Owned Bus Shelter Stations and Bus Loops





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5.5 Bus Transit Centers

5.5.1 Existing Conditions

Metrobus serves nine transit centers in Maryland and Virginia. The completion and start of operation of the Silver Spring Transit Center, Takoma Langley Crossroads Transit Center, and Montgomery Mall Transit Center have added major customer facilities for Metrobus riders over the past few years. In addition Metrobus also serves Franconia-Springfield, Mark Center, Pentagon, Seven corners, Shirlington and White Oak Transit Centers. Metro's Office of Bus Planning (BPLN) will continue to coordinate with the various agencies to meet the needs of our customers and keep Metro safe, reliable and affordable.

Table 11 provides a list of the major transit centers, ownership and year built, served by Metrobus.

Table 11: Transit Centers Served By Metrobus

Transit Center	Year Built	Number of Bus Bays	Owenership
Mark Center	2011	5	Alexandria
Montgomery Mall	2016	6	Montgomery
Pentagon*	1977	24	WMATA
Seven Corners	2011	3	Fairfax
Shirlington	2008	n/a	Arlington
Silver Spring	2015	22	WMATA
Takoma Langley Crossroads	2016	7	MTA
White Oak	2012	n/a	Montgomery

* - Pentagon Transit Center was rebuilt in 2015

5.5.2 Needs

Bus bay usage at the Pentagon Transit Center (PTC) has reached its capacity and WMATA, using the Transit Improvement Generating Economic Recovery (TIGER) grants, planned to add three additional bus bays. But due to excessive traffic at PTC, DOD indicated that adding new bus bays will aggravate the bus traffic problem. Instead, DOD offered a land for constructing a new transit facility on Army Navy Drive between S. Joyce and S. Hayes Streets. The transit center will have 8 bus bays and related infrastructure with direct pedestrian entryway to the Pentagon. DOD has also committed to cover the design and specifications cost and WMATA will cover the construction cost. Currently the design work is 100



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percent complete. The Army and Navy transit center is currently undergoing an environmental evaluation. Construction is anticipated to start by 2020.

5.6 Customer Information Electronic Display Signs (CIEDS)

5.6.1 Existing Conditions

In 2010 the Metro Board of Directors adopted the Guidelines for the Design and Placement of Transit Stops. Based on a bus stop hierarchy, the guideline states that enhanced service bus stops and transit centers qualify for a real-time information display. To provide real time information Metro introduced CIEDS (Customer Information Electronic Display Signs). CIEDS display real-time bus arrival information, route information, and MetroAlerts on delays, weather conditions, and detours. Approximately 800 CIEDS were approved for the initial phase of implementation.

The CIEDS systems was approved through prototype testing, factory acceptance testing and site acceptance testing processes. After the extensive testing period, CEIDS was first introduced in the Metrobus system in 2015. CIEDS currently consists of 362 signs installed across the region, on-street and at key Metrorail stations. The CIEDS design enables other public transit providers to also provide real-time bus arrival information at shared stops and transit centers, if provided in compatible data formats.

Metro plans to spread the reach of real-time bus arrival information to customers by expanding the CIEDS program. Metro is planning a multi-year installation and maintenance contract covering for new and reinstallation of existing signs. The availability of electric power at shelters has been the single most important factor in WMATA's ability to install CIEDS.

Table 12 below provides the location and number of CIEDS in the Metrobus system.



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Table 12: Summary of Metrobus CIEDS

Location	Shelter Signs	Station Signs	Total Signs
District of Columbia	163	0	163
Montgomery County	24	0	24
Prince George's County	16	0	16
Franconia-Springfield Metrorail Station	10	0	10
Pentagon Transit Center	0	24	24
Takoma Langley Park Transit Station	0	7	7
Metrobus Stations	58	0	58
Total WMATA - Signs	271	31	302
Silver Spring Transit Station	0	32	32
Shirlington Bus Station	4	0	4
Crystal City Station	3	0	3
Rosslyn Station	4	0	4
Metroway Stations	17	0	17
Total Other Agency Signs	28	32	60
Total Metrobus System	299	63	362

5.6.2 Needs

In spring 2018, WMATA initiated the “Asset Replacement and Customer Facility Enhancement Study” to provide a comprehensive plan to:

1. Identify CIEDS qualifying bus stops of regional-interest and local-initiative
2. Coordinate with utilities and sponsors for provision of electrical power, and
3. Integrate implementation schedules with related projects to complete the network in five years

The completed plan will provide complete information on CIEDS needs. Metro is also planning a multi-year installation and maintenance contract for new signs and reinstallation of existing signs.

Future installations will be focused on retrofitting existing Metrobus stations and bus loops and include more high-ridership and transfer locations served by other public transit providers. Additionally, new solar-powered and battery-powered “e-ink” displays, which may require less up-front power infrastructure, will be piloted to determine viability as an added option to provide customer



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5.7 Closed Circuit TV (CCTV) and Public Address (PA)

5.7.1 Existing Conditions

In order to enhance customer security WMATA has installed closed circuit television (CCTV) and public address (PA) speakers to monitor bus station platforms and communicate with customers. CCTV technology improves the protection of patrons and employees and creates a safe environment for transit riders. Overall a CCTV system, by capturing and recording images, reduces the fear of crime and reassures riders and employees, prevents and deters crime and unlawful activities. PA speakers are used to provide information to the public in passenger stations, buses, communicate with personnel in stations, service rooms, yards and shops.

Metro introduced 17 CCTV and 24 PA speakers at the Pentagon Transit Center (PTC) in 2016. Currently, CCTV technology has been installed at a number of Metrobus stations that are connected to Metrorail stations. But the overall coverage of the system within the Metrobus network is very limited.

Table 13 presents current location of CCTV and PA.

Table 13: Current CCTV and PA Location

No	Locations	CCTV	PA	No	Locations	CCTV	PA
1	Addison Road	1		13	Minnesota Avenue	2	
2	Anacostia	2		14	Morgan Boulevard	1	
3	Bethesda	2		15	Pentagon Transit Center	17	24
4	Brookland-CUA	1		16	Rockville	7	
5	Capitol Heights	1		17	Rhode Island Avenue	1	
6	Cheverly	1		18	Rosslyn	2	
7	College Park	2		19	Silver Spring Transit Center	60	
8	Deanwood	2		20	Takoma	1	
9	Franconia & Springfield	4		21	Takoma Langley Transit Center	11	10
10	Fort Totten	1		22	Twinbrook	2	
11	Huntington	1		23	Van Dorn	1	
12	King Street	1					



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5.7.2 Needs

While the use of CCTV technology is very effective in promoting riders' confidence and security, the availability of these systems throughout the Metrobus operating area is very limited. As indicated above, there are only a few transit stations that have the benefit of these systems. Metro is planning to expand and add new coverage of CCTV and PA throughout the Metrobus operating area. Safety and customer communication at WMATA-owned Metrobus stations is a priority particularly for stations with the highest bus ridership. In the coming years the investment priority should be to those stations that are currently serving over 1,000 boardings per day, but eventually all Metrobus station terminals should have coverage. The Asset Replacement and Customer Facility Enhancement Plan Study will provide a detailed list of the major bus terminals that will be targeted for capital investment to enable CCTV and PA systems coverage.

5.8 Off-Street Bus Terminals

5.8.1 Existing Conditions

WMATA owns and maintains four off-street bus terminal (bus loop) facilities at Chevy Chase Circle, 14th Street and Colorado Avenue, Duke Ellington Bridge, and Mount Rainier. They are remnants of the streetcar system that served Washington, DC and continue to serve as important terminal points and driver relief areas for Metrobus routes today.

A condition assessment of each loop was completed as part of the 2015 Metrobus Facilities Plan Study, leading to the conclusion that three (Chevy Chase, 14th Street and Colorado Avenue, Duke Ellington Bridge) of the four bus terminals are in need of substantial capital maintenance and rehabilitation. The Mount Rainier terminal was deemed to be in good condition, with 15 years of useful life remaining, however, some concrete failures and drainage problems were noted. The Chevy Chase Circle loop is currently undergoing repair with funding from a District of Columbia grant.

5.8.2 Needs

The conditions assessment of the off-street bus loops completed as part of the 2015 Metrobus Facilities Plan Study highlighted the following needs:

- 1. 14th Street and Colorado Avenue**
 - a. Reconstruct canopy areas
 - b. Remove existing roofing and deck; replace with new steel deck
 - c. Clean and repair all brick
 - d. Repair water damaged sections; inspect drainage



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- e. Repair and replace ceiling
- f. For ADA compliance doors and frames need replacement
- g. Interior and exterior security and lighting improvements
- h. Plumbing repair

2. Duke Ellington Bridge

- a. Replace south facing canopy structure
- b. Clean and repair all brick
- c. For ADA compliance doors and frames need replacement
- d. Interior improvements to plumbing

3. Mount Rainier Loop

- a. Some concrete failures need repair
- b. Drainage can be improved

4. Chevy Chase Loop

The 2015 conditions assessment observed several deficiencies in this structure; they are currently being remedied through a construction project funded by a District of Columbia grant.

The Mount Rainier, 14th Street, and Duke Ellington Bridge terminals need funding for safety enhancement, maintenance, rehabilitation and renovation to bring them to a state of good repair.

5.9 Bus Operators Restrooms and Break Rooms

5.9.1 Existing Conditions

Restrooms and break rooms are essential to meeting operator relief needs and enabling operators to provide quality customer service. Of the 291 Metrobus terminals, 72 (25%) have no access to restrooms and out of the available restrooms the share of non-WMATA restrooms accounts more than half.

Table 14 provides the total number of WMATA terminals, subdivided by terminals with and without restrooms.



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Table 14: WMATA Bus Terminals and Restroom Availability

Description	Number	%
Terminals with Portable Restroom	14	n/a
Terminals without Restrooms	74	26%
Terminals with Non-WMATA Restrooms	108	38%
Terminals with WMATA Restrooms	101	36%
Total Number of Terminals	283	100%

Metro has 14 portable restrooms that provide temporary late night/early morning operator access, mainly at rail stations where bus service extends beyond rail hours.

Table 15 present current locations of portable restrooms as an interim solution.

Table 15: Metrobus Portable Restroom Locations

No	Metrorail Station			Owned By Others
1	Addison Road Station	8	King Street Station	South Laurel Park & Ride
2	Brookland Station	9	Naylor Road Station	
3	Capitol Heights Station	10	Prince George's Plaza Station	
4	Congress Heights Station	11	New Carrollton	
5	Deanwood Station	12	Shady Grove Station	
6	Fort Totten Station	13	Takoma Station	
7	Huntington Station			

Currently, restroom facilities are not adequately available to meet Metrobus operators' needs, with some locations just served by single portable restrooms. To begin to address the inadequate facilities, Metro formed a committee that includes the offices of Bus Transportation, Safety, and Police, with participation by Union representatives, to recommend solutions.

Additionally, Metro has completed a Metrobus Operator Restroom/Break Room Facilities Study which provides a policy guideline document that can be used for planning future rest/break rooms for bus operators. The study, with expected completion by July 2018, builds on progress made by the WMATA



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Restroom and Break Room Committee, documenting existing conditions/needs, and prioritizing terminal locations for restrooms. The study will prepare guidance on general practices, specific solutions for priority locations, and a framework for decision making in the future. While interim solutions have provided relief at important locations, WMATA's long term objective is to plan for adequate restroom facilities at all 219 Metrobus terminals.

5.9.2 Needs

Availability of bus operator restroom and break rooms at Metro stations, Metrobus terminals and at the beginning and end of routes is a major challenge. Currently, facilities are not adequately available to meet Metrobus operators' demands at all locations and all hours of service.

In core areas of the region, Metrobus service hours extend later and earlier than Metrorail hours, creating urgent restroom needs during the Metrorail off hours.

Table 16 presents the top 10 terminals with a restroom on WMATA property ranked by the number of buses that use the location as a terminal when a restroom is not available.

Table 16: Top Ten Metrobus Terminals and Portable Restrooms

Terminal Name	Metrorail Station Restroom Location	Trip Count (Daily)	Portable Restroom
Fort Totten Station	Fort Totten Metrorail Station	282	Yes
Archives (9th & Cons NW)	Archives Metrorail Station	221	
Capitol Heights Station	Capitol Heights Metrorail Station	215	Yes
Ballston Station	Ballston Metrorail Station	171	
Farragut Sq (17th(E) & I NW)	Farragut West Metrorail Station	165	
Takoma Station	Takoma Metrorail Station	164	Yes
9th St & F St	Gallery Place Metrorail Station	161	
L'enfant Plaza Station (D&7 SW)	L'Enfant Plaza Metrorail Station	160	
Deanwood Station	Deanwood Metrorail Station	156	Yes
Brookland Station	Brookland Metrorail Station	150	Yes

108 of the 283 bus terminals that have a restroom available that operators can use, but the restrooms are not on WMATA property, and the hours of restroom availability do vary from Metrobus service hours.



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Table 17 provides a list of the top 10 terminals that have a restroom on non-WMATA property, ranked by the number of buses that use the location as a terminal when a restroom is not available. This features bus trips before or after business hours throughout the week.

Table 17: Top Ten Metrobus Terminals with Non-WMATA Restrooms

Terminal Name	Restroom Location	Trip Count (Weekly)
Federal Triangle (10th-Cons Nw)	Natural History Museum	1929
Glover Park	Stoddert Elementary School	653
Ledroit Park-Howard University	Howard University	440
White Oak, Rear of Sears Building	Sears	358
Lincolnia & Quantrell	Lerner Excelsior Tower	347
S Washington St & Alfred St	The Thornton Apartments	336
Mt Pleasant (Lamont St NW)	Argyle Convenient Store	308
Southern Towers	Southern Towers	305
7 Corners Transit Ctr	Chipotle	257
Mt Rainier (Rhode Island Ave & 34th)	Mount Rainier City Hall	251

There are 74 terminals that do not have any identified restroom available. While operators with routes along these terminals can stop mid-route to use the restroom, it is not ideal and can cause delays. These terminals are often challenging due to the lack of available existing restrooms near them and might require more intensive solutions.

Table 18 below presents a list of the top 10 terminals that do not have a restroom, ranked by the number of buses that use the location as a terminal.



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Table 18: Top Ten Metrobus Terminals without Restrooms

Terminal Name	Trip Count (Weekly)	Non-Commercial Area
Livingston (4501 3rd St)	1769	Yes
Benning Heights (H-46th Pl Se)	1226	Yes
St Elizabeth's Rd & Coast Guard HQ	1090	Yes
Bladensburg & S Dakota NE	862	
Half & O St SW	808	
Alabama & Pa Se (Ffx Vil)	796	
Culmore (Gl Ca & Vista)	758	
Eastern Ave & Chapelwood La	742	
33rd St & Blaine St	732	Yes
Annandale (Patriot & Amer)	704	Yes

The 2018 Metrobus Restroom Planning Guide (the product of the Restroom/Break room study of July 2018) provides complete detail on restroom locations and needs, along with specific suggestions for ways to provide restroom access and prototypes for building solutions.

WMATA's long term objective is to plan for adequate restroom facilities at all Metrobus terminals. **Capital investment will be needed for building new and improving existing restroom and break room facilities for bus operators.**

5.10 Bus Operators – Commercial Driving License (CDL) Training Facility

5.10.1 Existing Conditions

Metrobus conducts bus operator training and Commercial Driver License (CDL) testing on a regular basis to support the recruitment and retention of bus operating and maintenance staff. This work is essential to the provision of bus services as all bus operators, Transit Field Supervisors and most mechanical staff have, as a job pre-requisite and requirement, the achievement and retention of CDL driving privileges. This represents over 3,000 members of the Bus Services Department.

WMATA works closely with state agencies responsible for their resident's licensing to ensure that operators of Metro buses are trained in compliance with standards and practices of their home state requirements. To conduct the driving component of this training, Metrobus currently uses a parking lot adjacent to Landover Metro Station which has been fenced and secured for this purpose. However, this



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present location is considered a “temporary” use of this parking area as the site is slated for development as part of Prince George’s County general land use plans.

5.10.2 Needs

A new, permanent facility is needed to meet this critical need and WMATA is actively working to identify a site and related project design to meet this critical need of the system well into the future. A general description of functional requirements for a permanent Bus Training and CDL Facility includes the following elements:

1. A secure fenced facility with access controls and area lighting
2. Parking for employees and trainees
3. A building consisting of the following functions
 - a. Office area
 - b. Management office and consultation space
 - c. Instruction/conference room
 - d. Simulator space
 - e. Locker room
 - f. Restrooms
 - g. Lunch room/kitchenette
 - h. Storage of training materials and equipment
4. A training lot of sufficient size to provide for a training course including
 - a. Narrow lane operation
 - b. Bus stop simulation near-side, far-side and partially blocked
 - c. Stopping distance testing
 - d. Backing left and right
 - e. Intersection Left turns
 - f. Intersection Right turns
5. On-site parking of (up to 5) training buses and related equipment
6. Storage for snow and course maintenance equipment
7. The facility will include the ability to support training requirements for regular bus (40-foot long coaches), articulated bus (up to 60-foot coaches), paratransit bus (less than 30-foot long vans and body-on-chassis coaches) and related mechanical trucks and non-revenue equipment.
8. The completed course and facility will be subject to review and approval by state licensing authorities and additional requirements may be applied to fulfill legal and regulatory obligations to maintain certification



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5.11 Other

5.11.1 Asset Replacement and Customer Facility Enhancement Plan

WMATA is initiating a study to conduct several investigations and make recommendations to improve the condition of customer-facing Metrobus assets throughout the system. The main tasks are:

1. A comprehensive and system wide condition update, and plan for replacement, of Metrobus shelters located on Metro property, along with bus related infrastructure project development at several stations.
2. A guidelines document focusing on performance management for bus loops and customer facing bus infrastructure.
3. A comprehensive and system wide update and plan for customer information signage enhancement at Metrorail stations, focusing on those bus loops with high activity.

The study is anticipated to be finalized in the Spring of 2019 and will include preliminary design and cost estimates for a number of projects to help speed up delivery of WMATA's capital program and translate system needs into achievable projects. Among the projects that will be covered by this study are:

1. Bus Station Canopies
2. Bus Bays and Layover Space
3. CCTV and PA Systems
4. Modifications to allow articulated buses
5. Restriping and Reconfiguring Facilities
6. Bus Layover Space
7. ADA Compliance
8. Lighting and Seating
9. Static and Electronic Signage



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6 Bus Customer Facility Recommendations

6.1 Bus Stops

Metro needs additional resources and the active engagement of our jurisdictional partners to accelerate the change towards ADA complaint bus stops.

6.2 Bus Stop Shelters

Develop a funding and implementation plan to replace all Metrorail station shelters with the new design shelter.

The Asset (Bus Shelters) Improvement Evaluation Study of 2013 recommended for a prioritized shelter replacement plan, as shown in Section 5.3.2, Table 8. As indicated many of the existing shelters are beyond their useful life and require full replacement. WMATA has designed a new bus shelter which will serve as the next generation bus shelter for the Authority. The shelter replacement will be based on condition and demand, with the poorest condition, highest use shelters being replaced first. Towards this end, Metro has planned a replacement program of approximately 45 shelters per year. Replacing old, rusted shelters with modern and sleek versions will have a positive customer impact by driving up customer satisfaction, improving safety conditions, and laying the groundwork for future ridership gains.

6.3 Bus Bays

An evaluation and feasibility determination of the following needs will be conducted as part of the “Asset Replacement and Customer Facility Enhancement Study”.

1. Addison Road Station – Construct three additional bus bays.
2. Anacostia Station – Convert three bus bays to accommodate articulated buses. Shepherd Parkway Division will receive articulated buses, to operate on routes 90 and W4. Currently, Anacostia Station does not have articulated sized bus bays and this project will make adjustments to bus bays A, E, and F.
3. Fort Totten Station – Change Kiss & Ride exits and intersection adjustment to remove conflict between buses and cars; build two new bus bays and adjust crosswalk; remove some of the median/sidewalk area to create bus layover space; adjust bus bay D&E curbs to fit articulated buses.
4. Landover Station – Build a new bus bay and shelter and extend sidewalk.
5. Prince George’s Plaza Station – Build one new articulated and two new standard bus bays, provide continuous sidewalk from the new bus bays around the railroad tracks to connect with existing sidewalk, and change Kiss & Ride circulation to allow for entrance and exit.



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6. Silver Spring Transit Center – Concept design for a new bus loop and layover on the grass area in front of Silver Spring Transit Center.

6.4 CIEDS

Fund and implement recommendations from study currently underway. See the final report from the “Asset Replacement and Customer Facility Enhancement Study” in spring 2019 for an assessment, final design, and capital and construction plan for CIEDS. The Asset (Bus Shelter) Improvement Evaluation Study is anticipated to provide a comprehensive plan to identify qualifying bus stops of regional-interest and local-initiative, coordinate with utilities and sponsors for provision of electrical power and integrate implementation schedules with related projects to complete the network in five years. Metro is currently procuring a multi-year installation and maintenance contract covering over 500 CIEDS consisting of new and reinstallation of existing signs.

6.5 CCTV and PA

In the coming years, Metro is planning to expand and add new coverage of CCTV and PA systems throughout the Metrobus operating area. Safety and customer communication at WMATA-owned Metrobus stations is a priority particularly for stations with the highest bus ridership. For the initial phase it is determined that the investment priority should be to those stations that are currently serving over 1,000 boardings per day, but eventually all Metrobus station loops should have coverage. The Asset Replacement and Customer Facility Enhancement Plan Study will provide a detailed list of the major bus terminals that will be targeted for capital investment to enable CCTV and PA coverage.

Table 19 provides a preliminary list of priority stations based on ridership recommended for CCTV and PA system coverage and expansion.

Table 19: Priority Bus Stations for CCTV and PA

Location			
1	Anacostia	7	Wheaton
2	Minnesota Avenue	8	Addison Road
3	Southern Avenue	9	Suitland
4	Fort Totten	10	Naylor Road
5	Rhode Island Avenue	11	Capitol Heights
6	Brooklan-CUA	12	Rockville



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6.6 Transit Centers

Construct Army and Navy Drive Transit Center. Assess conditions regularly to keep facilities in a state of good repair. BPLN will develop annual review of the Transit Centers conditions in order to provide recommendations for Plant Maintenance.

6.7 Off-Street Bus Terminals

The Mount Rainier, Colorado Avenue, and Duke Ellington Bridge bus terminals need funding for safety enhancement, maintenance, rehabilitation and renovation to bring them to a state of good repair.

6.8 Bus Operators Restrooms and Break Rooms

The deficiency of restrooms and break rooms for bus operators to meet their essential relief must be addressed. Solutions for providing restroom facilities may include the following site-specific approaches with varying associated costs: restroom agreements with public and private entities, shared use with another transit operator, route modifications, joint development, existing facility retrofit including Metrorail restroom facility access at any hour, or a new restroom facility. Over the coming years Metro plans to:

1. Convert 13 portable restrooms to permanent restrooms and breakrooms,
2. Build additional bus operator restrooms and break rooms,
3. Make improvements to existing restrooms, and
4. Make existing and new restroom facilities ADA compliant. This metric includes but is not limited to: a 60" diameter free space inside the facility, adequate ramps leading to the facility, and 32-inch wide doors

Sites for new structures will need to include a water source, a place for the waste water to go, and electric power source. Adequate lighting, visual privacy, adequate ventilation, parking and access for maintenance and removal/replacement, security/monitoring of facility and surrounding area, access for the operator including: proximate, safe bus parking, and key/card key access (should be consistent) are required as well.

6.9 Bus Training and CDL Facility

Build a new permanent Bus Training and CDL Facility that incorporates the functional requirements as described in Section 5.10 and finalize the site identification, selection, and requirements definition process. Begin the facility design process as part of the FY 2020 work program leading to an approved CIP project for construction during the FY 2021 project cycle



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7 Conclusion

The 2018 Metrobus Facilities Plan provided a summary of the detailed facility inventory and assessment, identified needs and proposed recommendations for keeping Metrobus facilities in a State of Good Repair and making additional investment to meet future demand. It is critical to provide sustained investment to ensure a safe and modern system that will allow Metro to continue to support the region's economic competitiveness. This requires ongoing capital maintenance as well as investment for rehabilitation, replacement and expansion to keep up with changes in technology and meet safety and other regulatory requirements. Combining the replacement of old facilities, State of Good Repair and the major capital investments will:

1. Provide a safe, reliable and efficient service,
2. Provide adequate storage capacity and efficient maintenance to meet current needs of Metrobus services, and accommodate future fleet expansion, and
3. Minimize operating and maintenance costs.
4. Improve the customer experience needed to attract and retain ridership.

The plan identified major capital improvements that are categorized as:

1. Replacement of Obsolete Facilities,
2. State of Good Repairs, and
3. Major Capital Improvement.

Funding for improvements will be requested as part of the WMATA Capital Improvement Program (CIP). WMATA has approved a \$1.3 billion CIP for Metrobus over the next six years. Of this \$238 million is allocated for the construction of Andrews Federal Center, Cinder Bed and CNG facility at Shepherd Parkway and the capital investment needed for the planned demolition and reconstruction of Bladensburg Division. **Table 20 – 22** present investment plans over the coming years.

In preparing the 2018 Metrobus Facilities Plan, a study was conducted in coordination with internal and external stakeholders to prepare for the evolving needs of the Metrobus system regarding maintenance and operating facilities. The 2015 Metrobus Facilities Plan Study engaged WMATA internal staff to solicit input on current issues and future needs for the bus operating divisions. Staff from 11 offices participated in the study process, meetings and interviews were conducted with Plant Maintenance, Bus Maintenance, Bus Planning and Major Capital Projects. An external stakeholders briefing was also conducted to inform affected jurisdictions. Presentations were made to the Jurisdictional Coordinating Committee (JCC) during the study process to seek their inputs.



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This document is prepared for submission for FTA's approval. In the process of submitting this document to FTA, the following reviews have been completed:

1. **Internal Review:** All WMATA stakeholders have been involved in the internal review process.
2. **External Stakeholder Comment:** WMATA presented the Final Draft Plan to JCC for comment. The JCC presentation referenced both the Draft Plan and the implementation aspects of the current Capital Improvement Program, Development and Evaluation (D&E) projects as well as the various BPLN studies in the pipeline.
3. **External Review:** September 2018 – The Draft Plan will be submitted to FTA for review, comment and revision. The submission will incorporate available information on Transit Asset Management System requirements (TAMS) and support inclusion of Bus Facility projects in the approved FY2019-2023 CIP.
4. **Internal Approval:** Fall 2018 – The Final Plan will be presented to the WMATA Board for adoption.
5. **External Submission:** End of 2018 – Submit Final 2018 Metrobus Facilities Plan to FTA.



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Table 20: Six Year Capital Investment Plan Summary (2018 – 2023)

	Item	Description	Project (million)		
			Cost Estimate	FY2018 Budget	Future Need
GARAGE FACILITY	Replacement	Cinder Bed Road	\$89.5	\$8.4	\$0.0
		Andrews Federal Center	\$184.2	\$44.5	\$42.0
	Rebuilding	Bladensburg / Northern	\$330.0	\$2.0	\$330.0
		Shepherd Parkway - CNG Install	\$13.9	\$5.3	\$5.8
	Rehabilitation	Four Mile Run	\$6.8	\$0.0	\$6.8
		Montgomery	\$6.2	\$0.0	\$6.2
	Future Plan	Western - Replace	\$150.0	\$0.0	\$150.0
		Southern - Renovate	\$2.0	\$0.0	\$2.0
		New Facility - Silver Spring	\$189.2	\$0.0	\$189.2
		Design and Engineering (D&E)	\$31.0	\$2.1	\$28.9
	Sub - Total		\$1,002.9	\$62.4	\$761.0
CUSTOMER FACILITIES	Bus Customer Facility Improvements		\$4.9	\$1.6	\$3.4
	Traffic Signal Prioritization (T SP)		\$2.9	\$2.9	\$0.0
	T ransit Station Area Bus Safety Program		\$52.6	\$0.0	\$52.6
	Customer Information and Electronic Displays Signs (CEIDS)		\$18.0	\$0.0	\$18.0
	Bus Loop Safety Enhancement Program		\$8.0	\$0.0	\$8.0
	Bus Station Canopy		\$35.0	\$0.0	\$35.0
	CCTV Security Monitors		\$6.5	\$0.0	\$6.5
	Rest Room and Break Room		\$2.0	\$0.0	\$2.0
	King Street Bus Loop (Alexandria)		\$1.2	\$1.2	\$0.0
	Design & Engineering - Bus Facilities./Systems		\$0.5	\$0.0	\$0.5
	Future Bus Passenger Facility/Systems.		\$0.3	\$0.0	\$0.3
	Sub - Total		\$131.7	\$5.7	\$126.1
	Total			\$1,134.6	\$68.1



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Table 21: Facilities Plan Recommendations - Plan of Action

	Facility Name	2018	2019	2020	2021	2022	2023	2024	2025
STATE OF GOOD REPAIR (SGR) NEEDS	Northern								
	Western								
	Bladensburg								
	Shepherd Parkway								
	Southern								
	Landover								
	Montgomery								
	Four Mile Run								
	West Ox								
REPLACEMENT OF OBSOLETE FACILITIES	Cinder Bed		OPEN						
	Andrews Federal Center		OPEN						
	Bladensburg		PARTIAL CLOSE & REBUILD					OPEN	
	Northern		CLOSE & REBUILD					OPEN	
MAJOR CAPITAL IMPROVEMENT NEEDS	Southern							CLOSE	
	Western								REBUILD
	New Garage at Silver Spring (Vicinity of Northern Prince Georges and Eastern Montgomery Service)				BUILD		OPEN		



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Table 22: Customer Facilities Investment Plan

Investment Type	Facility Type	Investment Period and Type							
		2018	2019	2020	2021	2022	2023	2024	2025
STATE OF GOOD REPAIR (SGR) NEEDS	Customer Information & Maps	Update 1,000 Schedule Panels & 45 Bus Maps	Update 1,000 Schedule Panels & 45 Bus Maps	Update 1,000 Schedule Panels & 45 Bus Maps	Update 1,000 Schedule Panels & 45 Bus Maps	Update 1,000 Schedule Panels & 45 Bus Maps	Update 1,000 Schedule Panels & 45 Bus Maps	Update 1,000 Schedule Panels & 45 Bus Maps	Update 1,000 Schedule Panels & 45 Bus Maps
	Bus Stop Improvements	Design 151 stops	Construct 151 stops and conduct survey of remaining ADA noncompliant stops	Begin large scale design and construction program to address remaining stops in region (200+ stops)	Continue design and construction program (200+ stops)	Continue design and construction program (200+ stops)	Continue design and construction program (200+ stops)	Continue design and construction program (200+ stops)	Continue design and construction program (200+ stops)
	Bus Shelter Replacement		Replace 72 shelters Using (FTA Bus/Bus Facilities Grant	Replace 45 shelters	Replace 45 shelters	Replace 45 shelters	Replace 45 shelters	Replace 45 shelters	Replace 45 shelters
RENOVATE non-SGR BUS LOOPS	Chevy Chase	Final design or design build	Construction						
	14th Street & Colorado Avenue		Design	Construction					
	Duke Ellington Bridge		Design	Construction					
	Mount Rainier		Study/Project Dev't.	Design	Construction				
MAJOR CAPITAL IMPROVEMENT NEEDS	Customer Information Electronic Display Signs (CIEDS)	Installed 54	Complete 100 installs	Complete 80 installs	Complete 65 installs	Complete 65 installs	Complete 65 installs	Complete 65 installs	Complete 60 installs

GOVERNMENT OF THE DISTRICT OF COLUMBIA
STATE HISTORIC PRESERVATION OFFICER



May 16, 2019

Mr. Daniel Koenig, Community Planner
U.S. Department of Transportation
Federal Transit Administration, Region III
1760 Market Street, Suite 500
Philadelphia, PA 19103-4124

RE: Initiation of Section 106 Consultation for the WMATA Northern Bus Garage (aka Capital City Traction Company Car barn / Decatur Street Car barn) Replacement Project; 4615 14th Street, NW

Dear Mr. Koenig:

Thank you for initiating consultation with the District of Columbia State Historic Preservation Officer (SHPO) regarding the above-referenced undertaking. We have reviewed the project submission and are writing to provide our initial comments regarding effects on historic properties in accordance with Section 106 of the National Historic Preservation Act and its implementing regulations, 36 CFR Part 800.

We understand that the Federal Transit Administration (FTA) proposes to provide funding to WMATA so that it can carry out work at the Capital City Traction Company Car barn which the submission alternately describes as a replacement, a major renovation, and a major reconstruction.

The plans included in the submission were schematic but, when considered along with the supporting narrative, sufficient for us to concur with FTA's determination that the currently proposed undertaking will have an adverse effect on historic properties since every part of the historic building would be demolished except for the 14th Street, NW façade.

As indicated in the submission, the Capital City Traction Company Car barn is listed in the National Register of Historic Places. It is also a landmark listed in the DC Inventory of Historic Sites. Even though the car barn has been altered and augmented over time, we do not agree that the entirety of its significance is embodied solely within its 14th Street façade. The National Register nomination establishes that the building's Period of Significance (POS) extends from its construction date in 1906 through 1959, the year it was converted to a bus garage. The designated boundaries extend well beyond the façade to include the portions of the building that fall within the POS.

At this early point in consultation, the proposed Area of Potential Effects appears reasonable but we may recommend that it be revised once we learn more about the project, especially in terms of the proposed new construction and any indirect effects that may occur as a result.

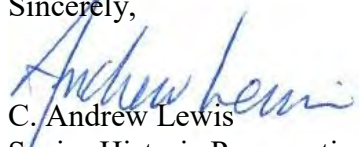
Pursuant to 36 CFR 800.6, FTA should continue consultation "...to develop and evaluate alternatives or modifications to the undertaking that could avoid, minimize or mitigate adverse effects on historic properties." We also stress the importance of identifying consulting parties and inviting their views given the nature and magnitude of the potential adverse effects.

Mr. Daniel Koenig
Northern Bus Garage (aka Capital City Traction Company Car barn / Decatur Street Car barn) Replacement Project; 4615 14th Street, NW
May 16, 2019
Page 2

On a related note, this letter also serves to document that the level of demolition currently proposed for the landmark Capital City Traction Company Car barn would require review by the DC Historic Preservation Review Board (HPRB) and would be inconsistent with the DC Historic Landmark and Historic District Protection Act of 1978.

If you should have any questions or comments regarding any of these matters, please contact me at andrew.lewis@dc.gov or 202-442-8841. Otherwise, we look forward to consulting further with FTA and the other consulting parties regarding alternatives and/or modifications that can avoid the adverse effect.

Sincerely,

A handwritten signature in blue ink, appearing to read "Andrew Lewis", is written over the printed name.

C. Andrew Lewis
Senior Historic Preservation Officer
DC State Historic Preservation Office

19-0382

APPENDIX 6: HISTORIC PRESERVATION REVIEW BOARD STAFF REPORTS

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HISTORIC PRESERVATION REVIEW BOARD STAFF REPORT AND RECOMMENDATION

Landmark/District:	Decatur Street Car Barn/Northern Bus Garage	(X) Agenda
Address:	4701 14th Street, NW	() Consent Calendar
Meeting Date:	May 28, 2020	(X) New Construction
H.P.A. Numbers:	20-176	(X) Alteration
		(X) Demolition

The Washington Metropolitan Area Transit Authority (WMATA), Beyer Blender Belle Architects and Wendel Architects seek conceptual design review for an extensive renovation of the historic Decatur Street Car Barn and its substantial additions. The goal of the project, which includes rehabilitation, demolition and new construction, is to modify the facility so it meets current bus garage standards.

Decatur Street Car Barn

The Decatur Street Car Barn was designed in the Italian Renaissance style by the local architectural firm of Wood, Donn and Deming, and constructed for the Capital Traction Company in 1906-1907. The National Register nomination describes the building as "...a high style and sophisticated piece of architecture...deliberately designed to serve as a company landmark..." Its most prominent façade, which faces 14th Street, resembles a 16th century Italian villa and features a prominent tower, large arched streetcar openings, a long arcade of windows, and decorative stone detailing such as keystones, quoins and belt courses. The building was originally 537 feet by 208 feet and occupied approximately half of its site, but that changed significantly as the carbarn was converted for bus garage use over time.

Bus-related modifications began as early as 1926 when the lower level started being used for bus storage and an addition was constructed on the east side for similar purposes. By 1959, the entire building was converted to a bus garage. WMATA assumed ownership of the property upon its creation in 1967 and substantially expanded the building in 1989-1992 via construction of a large, one-story bus maintenance facility and storage area. This expansion replaced virtually the entire roof of the original building, destroyed a great deal of historic interior fabric, altered the original exterior, and enclosed Decatur Street to provide additional bus egress, thus effectively engulfing the historic car barn in new construction. Upon completion, the bus garage occupied its entire site. However, the historic building still retained sufficient integrity to be designated a DC landmark in 2012 and listed in the National Register of Historic Places in 2013.

Proposal

Substantial renovation is necessary to accommodate WMATA's expanding and modernizing bus fleet. Larger spaces are required to allow 40' and 60' articulated buses to circulate

through the facility; additional clearance is necessary for taller diesel buses and planned overhead charging equipment for electric buses; more service bays and storage areas are needed to meet future needs; and additional space is required to house updated air filtration equipment, solar panels and office space for WMATA employees. In order to meet these project goals, WMATA proposes to gut most of the existing building, reconfigure the interior, and construct new levels above and below.

Evaluation

The proposed extensive modifications will destroy practically all remaining historic interior fabric, the original eastern wall, and the majority of the car barn's north and south elevations, thus resulting in substantial demolition that is inconsistent with the purposes of the DC Historic Landmark and Historic District Protection Act (Act). To offset this loss, the 14th Street elevation will be largely restored, and portions of the north and south façades will be retained and revealed to express the car barn's historic configuration.

Restoration of the primary 14th Street elevation will include in-kind replacement of slate roofs, substitution of 1980s windows with historically accurate replacements, removal of brick infill, demolition of a non-historic stair tower, and a variety of standard preservation treatments such as repointing, crack repair and cleaning of the brick facade. The large arched openings that originally provided ingress and egress for streetcars will be glazed with new storefront entries to facilitate adaptive use of former administrative areas for community retail. One of the historic arcade windows will be also be converted to a door to provide additional retail ingress/egress.

On the southern end, new construction will be set back to expose the distinctive rounded corner and two bays of the former streetcar barn as well as the original smokestack that is located just beyond. These features will provide historic interest and offer a sense of the building's original form, especially when viewed from the intersection of 14th and Buchanan Streets. The design of the newly constructed office wing nearer to the intersection has been made compatible with the historic building by echoing the horizontal belt courses and rhythm of its windows, and by using similarly scaled brick that is similar in color to the stone details of the streetcar barn.

To the north, the new stair tower required to provide access to all existing and proposed levels of the facility has been designed as a simple glazed structure that maximizes views to the remaining portions of the historic north façade while the 1980s historicist Decatur Street enclosure has been redesigned as a simple contemporary structure that is clearly distinguishable as new construction.

The newly constructed upper levels, including the anticipated solar arrays, will be sufficiently set back to allow the Decatur Street Car barn to read like a historic building rather than a mere façade. These new levels will also be positioned far enough to the east to be minimally visible from 14th Street.

Even though the remaining elevations of the bus garage do not adjoin any historic fabric, are not visible from historic portions of the building, and are not located within a historic district, their relationship with the surrounding community could be improved. As the landmark's 14th Street elevation illustrates, it is possible for large-scale industrial buildings to compatibly co-exist with much smaller residential buildings if they have a commensurate scale, materials and detailing. The Historic Preservation Office (HPO) encourages the design team to revise the elevations proposed for Iowa and Arkansas Avenues and for Buchanan Street so that they reflect the smaller residential scale and detailing that are characteristic of the surrounding neighborhood.

Recommendation

HPO recommends that the Board:

- 1. Acknowledge that extensive renovations are necessary to meet project goals;*
- 2. Find that those aspects of the proposed concept relating to restoration of the 14th elevation and preservation of portions of the northern and southern elevations are appropriate for the historic Decatur Street Car barn;*
- 3. Find the proposed demolition of remaining historic fabric inconsistent with the purposes of the DC Historic Landmark and Historic District Protection Act, and recommend that the case proceed to the Mayor's Agent for review; and*
- 4. If the Mayor's Agent determines that the project is found to constitute a project of special merit and/or consistent with the Act, request that the Mayor's Agent direct the applicants to return to HPO for further design review to ensure final plans include an appropriate scope of preservation and restoration work to offset the loss of historic fabric.*

Staff Contact: Andrew Lewis

HISTORIC PRESERVATION REVIEW BOARD STAFF REPORT AND RECOMMENDATION

Landmark/District:	Decatur Street Car Barn/Northern Bus Garage	<input checked="" type="checkbox"/> Agenda
Address:	4701 14th Street, NW	<input type="checkbox"/> Consent Calendar
Meeting Date:	December 17, 2020	<input checked="" type="checkbox"/> New Construction
H.P.A. Numbers:	20-176	<input checked="" type="checkbox"/> Alteration
		<input checked="" type="checkbox"/> Demolition

On May 28, 2020, the Historic Preservation Review Board heard a presentation by the Washington Metropolitan Area Transit Authority (WMATA), Beyer Blinder Belle Architects and Wendel Architects regarding a proposed extensive renovation of the historic Decatur Street Car Barn. The Board did not find the concept design compatible with the landmark, citing the need to revise aspects of the newly proposed elevations on all sides. The Board also directed WMATA and its architects to seek input from the community and return with a revised concept that reflected public comments. Subsequently, on September 24, 2020, HPRB determined that the extensive demolition associated with the renovation project was inconsistent with the purposes of the DC Historic Landmark and Historic District Protection Act (Act) and referred the demolition permit filed by WMATA to the Mayor's Agent for review. The project team is now seeking approval for its revised concept in advance of the Mayor's Agent hearing.

Decatur Street Car Barn

The Decatur Street Car Barn was designed in the Italian Renaissance style by the local architectural firm of Wood, Donn and Deming, and constructed for the Capital Traction Company in 1906-1907. The original building occupied approximately half of its site but was expanded over time while being converted for use as a bus garage, most notably, when WMATA significantly enlarged the building in 1989-1992 via construction of a one-story bus maintenance facility and storage area. This expansion replaced most of the roof, destroyed a great deal of historic interior fabric, altered the original exterior, and enclosed Decatur Street to provide additional bus egress, thus effectively engulfing the historic car barn in new construction. Upon completion, the bus garage occupied its entire site. However, the historic building still retained sufficient integrity to be designated a DC landmark in 2012 and listed in the National Register of Historic Places in 2013.

Proposal

Substantial renovation is necessary to accommodate WMATA's expanding and modernizing bus fleet. To meet these project goals, WMATA proposes to gut most of the existing building, reconfigure the interior, and construct new levels above and below. To offset the loss of historic fabric, the remaining portions of the original carbarn along 14th Street, NW will be preserved and restored along with the smokestack on the southern end of the building and a good portion of the northern and southern elevations. The preservation scope was outlined during the previous HPRB review and favorably received.

Evaluation

As indicated above, the extensive demolition necessary to modify the historic structure for contemporary use will result in substantial demolition inconsistent with the purposes of the Act. This matter will be evaluated by the Mayor's Agent in the coming month. In the meantime, WMATA has responded to HPRB's earlier comments and worked with the community to revise its new construction plans as directed by the Board.

As part of its outreach, WMATA hosted several virtual community meetings, prepared three new design alternatives and conducted an on-line survey to determine which approach would be most liked by the community. Although not unanimous, a majority supported "Option 3" – the alternative that best integrated the design of the new construction with that of the historic building. This alternative was then further refined based upon comments provided in the November 2, 2020 virtual community meeting.

The most notable integration was achieved via a modified materials palette that more closely resembles the reddish colors and masonry characteristics of the historic brick building. As a result, the majority of the new construction will be clad in horizontally laid high performance concrete panels featuring a range of reddish colors similar to those used to construct the car barn walls. Although these panels will be larger than the historic brick, similarly scaled brick of a dark grey color will also be used in several areas to anchor the new building to the ground and provide a pedestrian scale, primarily at the corners where a human scale is most needed. Matching cast stone panels will also be incorporated to provide highlights that echo the decorative sandstone banding of the original building and provide interest to the façades.

In some locations, the brick and concrete panels will be laid in a screen pattern and overlapped to further break down the scale of the sizeable new construction and maximize the play of light and shadow on exterior walls. Blind brick panels reminiscent of 14th Street's long line of arched windows and inset reveals acting as "recessed piers", created by recessing areas of brick approximately 1" behind the building plane of the building, will also be utilized in some locations to provide an architectural rhythm complementary to the surrounding built environment.

As requested by the community, public art will be introduced along Iowa Avenue and potentially in other areas to minimize the scale of some larger walls and provide elements of interest. Rather than being randomly placed, however, the as yet-to-be-determined artwork will be framed between the "recessed piers" to provide a more direct dialogue between the art and the architecture. Some community comments suggested the artwork relate to the history of the building. HPO would support this approach since it would serve an educational/interpretive purpose as well as beautify the building. The previously proposed vegetative panels have been eliminated.

Another notable improvement of the revised design is the significant reduction in overall height. In addition to relating better to the strong horizontality of the historic car barn, the lower scale significantly improves the primary entrance at the southwest corner of the site.

The elimination of the large entry stair/ramp originally proposed for this corner also greatly improves the new design as does an overall simplification of massing and fenestration.

On the northwest corner, views to the historic carbarn will be substantially improved by eliminating the previously proposed glazed stair/elevator tower and restoring two original windows and more of the carbarn's northern wall. This significant revision will reduce the perception that the 14th Street elevation is merely a façade.

Finally, while some of the project renderings do include trees, it is unclear whether these fulfill the Board's earlier recommendation to incorporate more trees in the project plans and whether a landscape plan has been developed. Further study and development of landscape features may better incorporate the new facility into its surroundings.

Recommendation

For the reasons outlined above, HPO recommends that the Board:

- 1. Find the revised concept compatible with the historic Decatur Street Carbarn and its site;*
- 2. Provide any additional comments that may further improve the overall design; and*
- 3. If the Mayor's Agent determines that the project is a project of special merit and/or consistent with the Act, request that the Mayor's Agent direct the applicants to return to HPO for final design review and to ensure final plans include an appropriate scope of preservation and restoration work to offset the loss of historic fabric.*

Staff Contact: Andrew Lewis

HISTORIC PRESERVATION REVIEW BOARD STAFF REPORT AND RECOMMENDATION

Landmark/District: **Decatur Street Car Barn/Northern Bus Garage** (X) Agenda
Address: **4701 14th Street, NW** () Consent Calendar
Meeting Date: **October 28, 2021** (X) New Construction
H.P.A. Numbers: **21-553** (X) Alteration
(X) Demolition

The Washington Metropolitan Area Transit Authority (WMATA), Beyer Blinder Belle Architects and Wendel Architects seeks final concept review for an extensive renovation of the historic Decatur Street Car Barn. HPRB first reviewed the concept on May 28, 2020, a related demolition permit on September 24, 2020, and a revised concept on December 17, 2020. The latter was unanimously approved by the Board conditioned upon a few minor revisions and an additional review after the Mayor's Agent hearing of the demolition permit was complete. That hearing occurred on March 26, 2021 and the order to clear the permit was issued on September 17, 2021. The project team is now seeking approval for its final design.

Decatur Street Car Barn

The Decatur Street Car Barn was designed in the Italian Renaissance style by the local architectural firm of Wood, Donn and Deming, and constructed for the Capital Traction Company in 1906-1907. The car barn was adapted for use as a bus garage over time and significantly altered when WMATA enlarged the building in 1989-1992. This expansion left most, but not all of the remaining historic fabric along the 14th Street, NW elevation. The entire site was designated a DC landmark in 2012 and listed in the National Register of Historic Places in 2013.

Proposal

Substantial renovation is necessary to accommodate WMATA's expanding and modernizing bus fleet. To meet these goals, WMATA proposes to gut most of the existing building, reconfigure the interior, and construct new levels above and below. To offset the loss of historic fabric, the remaining portions of the original car barn along 14th Street, NW will be preserved and restored along with the smokestack and portions of the northern and southern elevations.

Evaluation

The most recent concept continues to reflect community input gathered via virtual meetings and an on-line survey of various design alternatives. It has also been modified to address the two specific "edits" recommended by HPRB during its last review.

Firstly, the light-colored, high performance masonry panels on the southwest corner and the Buchanan Street elevation, which the Board determined inappropriately read as a "posts & beams," have been eliminated. These have been replaced with red masonry and grey metal panels to better integrate these elements into the overall composition. The light-colored panels

above the garage entrance on the northwest corner have also been eliminated. Subtle detailing consisting of dark-colored brick have been introduced in this area to better relate this entrance to the highly ornamented historic garage entrance immediately to the south.

Secondly, the Board's direction to better relate the east elevations to the row houses across the street has been addressed by introducing perforated screens above the previously proposed recessed panels, incorporating a dark brick belt course above the screens, setting the wall above the new belt course back 1' 4", and revising the cladding of the recessed wall from variegated red to a single shade of red. These revisions establish a more direct architectural dialogue with the residences across the street by accentuating a rowhouse rhythm, suggesting first and second story fenestration, establishing a cornice-like element at a proportionally-related height, and by playing down the greater height of the new building above the "cornice line."

Recommendation

HPO recommends that the Board approve the revised design and delegate all remaining review to HPO.

Staff Contact: Andrew Lewis

APPENDIX 7: CONSULTING PARTIES REPORT AND MEETING MINUTES

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**Consulting Parties Report
Significance, Effects, and Mitigation
November 19, 2021**

Contents

Overview
Project Background
Historic Significance and Integrity
Effects of Undertaking
Historic Fabric Analysis
Public Outreach and Comment
Potential Mitigation
Summary and Next Steps
Bibliography

Appendixes

Appendix A: Historic Fabric Analysis
Appendix B: Sample Initial Consultation Public Notification
Appendix C: Public Comment including March 11, ANC Meeting Minutes and Written
Comment provided at March 11, 2020 ANC Meeting and May 28 OP-HPO Staff
Report and Meeting Minutes and Recommendations
Appendix D: Virtual Community Engagement Meeting Announcement
Appendix E: Section 106 Consulting Parties Meeting, July 29, 2021 Meeting Minutes and Power
Point Presentation
Appendix F: Northern Bus Garage Reconstruction Memorandum of Agreement (draft)

Overview

The purpose of this document is to provide project information and guide consulting party input relevant to the drafting of a Memorandum of Agreement (MOA) that will mitigate the adverse effect(s) of the proposed Northern Bus Garage Replacement. A brief project background is provided along with a discussion of the building's historic significance and integrity. Effects of the project on the building and its historic significance will be examined, and potential measure of mitigation of adverse effects identified.

The Washington Metropolitan Area Transit Authority (WMATA) plans major reconstruction of its Northern Bus Garage facility, located at 4615 14th Street NW in Washington, D.C. The building occupies Squares 2811 and 2015 and has a 5-sided footprint. The property is defined by the north end (formerly a section of Decatur Street), and an east boundary consisting of Iowa and Arkansas Avenues NW. The south boundary is Buchanan Street NW and the west side elevation is the building façade and fronts 14th Street NW.

The Northern Bus Garage is designated a historic property, despite substantial additions and alterations made to the original 1906 building. The entire building was designated a DC Historic

Landmark in 2012 and listed in the National Register of Historic Places (NRHP) as the Capital Traction Company Car Barn the following year (listed May 22, 2013, #13000290). The period of significance for the NRHP listing is 1906 – 1959, the end date marking the conversion of the building from a streetcar facility to a bus garage.

WMATA's proposed replacement of the Northern Bus Garage is funded with federal money from the Federal Transit Administration (FTA), requiring compliance with Section 106 of the National Historic Preservation Act (Section 106). Section 106 consultation began in Spring of 2019 and involved WMATA, the Federal Transit Authority (FTA), and the District of Columbia State Historic Preservation Office (DC SHPO). A site visit consultation and inspection of the facility to assess remaining historic fabric resulted in the FTA and the DC SHPO informally agreeing that the undertaking would result in an adverse effect.

Subsequent design has changed the initial concept plans, requiring further consultation with FTA and the DC SHPO. Public outreach has occurred, and FTA and the DC SHPO have received 5 requests from community groups for consulting party status. All these requests were granted. The public has been invited to provide comment at an Advisory Neighborhood Commission (ANC) and the DC Historic Preservation Review Board (DC HRPB) meeting to review concept design. Following these public outreach meetings, consulting parties reviewed the property's significance and the undertaking's effects and is being asked to consider commensurate mitigation for the adverse effects, which will be memorialized in a Memorandum of Agreement (MOA).

Project Background

A 2018 Metrobus Facilities Plan summarizes facility requirements from 2018 through 2025 based on 2017 fleet projections and facility capacities for fleet maintenance and storage. This plan confirmed that the location and capacity of the Northern Bus Garage is important to the operation of major bus lines that serve high capacity downtown bus routes (Office of Bus Planning 2018, 22). The study estimated that relocating the facility operations to another site would increase annual operating costs by 30% to 50%, yet the existing facility is functionally obsolete and costly to operate.

Further analysis determined the facility is in poor condition and has structural deficiencies (Office of Bus Planning 2018, 22). The building has very limited ability to accommodate future Metrobus needs, such as long, articulated bus capacity, conversion to an electrically powered bus fleet, and converting to an alternative energy source. Major reconstruction of the facility is needed to correct current structural and operational deficiencies and accommodate future system needs (Office of Bus Planning 2018, 22).

Specific recommendations in the 2018 report includes planning for a major reconstruction of the Northern Bus Facility that will expand all or most service bays to accommodate large articulated buses needed for downtown routes. Additional recommendations for the replacement garage include structural column spacing to support 14 ft. minimum stall width, limit external access points, level grade changes, and provide for counterclockwise bus circulation.

Concept plans were developed early in 2019 for the reconstruction of the Northern Bus Garage, which included preservation of the 14th Street NW façade. In April 2019, WMATA and FTA initiated consultation with the DC SHPO requesting concurrence with the Area of Potential Effects (APE) and identification of historic properties in the APE based on review and comment on the submitted materials and plans (Lewis 2019, 3). The DC SHPO responded with concurrence with the APE and adverse effect determination. In addition, the DC SHPO noted that the entire building is listed in the NRHP and is a designated DC Historic Landmark, not just the 14th Street NW façade. A consultation and site inspection with WMATA, the FTA, and the DC SHPO occurred in July of 2019. Historic fabric was apparent in areas beyond the façade, including the original 1906 east wall, sections of the original north wall, and sections of wall in the basement. In addition, areas of the 14th Street NW façade included non-historic fabric, notably some infill construction.

The DC SHPO requested development of future plans include the identification of all fabric dating from the period of significance (1906-1959) and an analysis of the potential to include and preserve historic fabric in the design that is in addition to the façade. They further suggested that opportunities to restore historic fabric be identified. FTA formally notified the Advisory Council on Historic Preservation (ACHP) of the adverse effect finding in July of 2019 and invited them to participate in continuing consultation. ACHP declined to participate.

The project consultant's Secretary of the Interior qualified professionals completed site visits and research on the history and development of the Northern Bus Garage and identified the extant historic fabric of the building. The resulting Historic Fabric Analysis report also discusses options for preservation of historic materials in addition to the 14th Street NW façade, and identified areas that have been altered and could be restored. The Historic Fabric Analysis report is attached as Appendix A.

Historic Significance and Integrity

The Northern Bus Garage was constructed in 1906 as the Capital Traction Company car barn. The building was designed by the prominent architectural firm of Wood, Donn, and Deming and was constructed by the firm of Richardson and Burgess. The building became operational in 1907.

In 1926, the Capital Traction Company carbarn began its dual role as a streetcar and bus garage facility. An addition was built on the east side of the building for bus storage and the space was leased to the Washington Rapid Transit Company. It is likely that many interior alterations were made in 1959 due to the building's conversion to a bus garage. For example, the streetcar interior tracks and turn tables were removed and the floors were rebuilt. Exterior photographs show new openings were added on the 14th Street NW façade, between 1949 and 1962, adjacent to the north face of the original tower. A 1914 real estate valuation plan indicates the area adjacent to the north elevation of the streetcar entrance as open and mid-century documentation indicate this area containing a wall. Photographic evidence from 1974 indicates an arched window toward the south end of the façade was changed to a door. Plans from 1978 depict this area as walled in and it now contains a door. Another change that could have occurred was an

expansion of the 1926 east addition, as this section is larger in a 1974 aerial photograph than depicted in earlier aerial images.

In 1983 WMATA built a wall around the facility to help lessen impacts to residences, and in 1985 sought plans to expand the footprint of the existing facility and conducted major renovations of the interior but did not “adversely impact the exterior of the 14th Street façade” (Resource Application, Inc, 1985, 3-33). Correspondence associated with review of the Environmental Assessment document states the 14th Street NW façade of the building contains the most historic integrity (Valge 1985, 1). WMATA’s demolition and reconstruction of major areas of the garage, included constructing additions on the north and south ends and adding roof parking for staff. The resulting building has a footprint that completely covers 2 city squares.

The Northern Bus Garage is a designated DC Historic Landmark (2012) and was listed in the NRHP in 2013. Prior to these designations, the 1998 NRHP Multiple Property Document *Resource Streetcar and Bus Resources of Washington, D.C., 1862-1962* identified the Northern Bus Garage as eligible for NRHP listing. The building is significant for association with a broad series of events (NRHP Criterion A), specifically a strong association with the development patterns of the District of Columbia’s northern suburbs. The building is also significant for its architecture as an important example of the Italian Renaissance Revival style in Washington, D.C. (NRHP Criterion C). The work of noted architects Wood, Donn, and Deming, the building, like many streetcar barns of the time, was designed to attract passengers to the developing residential areas. The high aesthetic standards for streetcar barn design not only had to promote the neighborhood, the design of these buildings was intended to promote the streetcar line companies, which were very competitive prior to the era of consolidation (Buell 2013, 2).

The ability of a property to convey its historic significance is determined by the property’s level of historic integrity. The seven aspects of historic integrity are design, location, setting, workmanship, feeling, association and materials. The Northern Bus Garage has a high level of integrity of location, setting, feeling and association. The building has not been moved, and its general setting remains intact, although the 13 ft. high wall surrounding the east, north and south elevations does substantially diminish the visual relationship between the building and its setting. This wall is not considered part of the nominated or designated property. The retention of most of the original high style façade with large vehicle openings to the street and original form and shed-like appearance convey integrity of feeling and association with 19th – 20th century streetcar barns in Washington, D.C., as required by the registration requirements for the Streetcar Barn property type in the 1998 MPD (Tracerics #64500948 2013, 8).

Effects of Undertaking

The National Historic Preservation Act, Protection of Historic Properties 36 CFR Part 800 identifies criteria for adverse effects. The first criterion is “Physical destruction of or damage to all or part of the property” and the second is “Alteration of a property, including restoration, rehabilitation, repair, maintenance, stabilize, hazardous material remediation and provision of handicapped access, that is not consistent with the Secretary’s Standards for the Treatment of Historic Properties (36 CFR part 68) and applicable guidelines” (Assessment of Adverse Effects, 36 CFR Part 800.5). The proposed undertaking meets both criteria. Therefore, FTA has found

and DCSHPO has concurred that the project may result in adverse effects to historic properties. While minimization measures are being pursued in order to retain and restore historic fabric, as noted in Project Background, the avoidance of effects to this project is not feasible or prudent. Internal bus circulation requirements and new technologies, such as developing an electric bus fleet, could not be accommodated while preserving the interior walls that represent the east and interior and exterior walls of the 1906 car barn.

Historic Fabric Identification and Analysis

To further understand the undertaking's effects and to guide further design development, an analysis of the existing historic fabric was conducted. The complete historic fabric analysis is found in Appendix A.

WMATA acquired the 1906 Capital Traction Company car barn in 1966. This architect designed Italian Renaissance Revival style building was constructed to store, maintain and repair streetcars. Alterations over the years included construction of a basement (1926), an eastern addition, (since removed), and changes resulting from the 1959 building conversion from a streetcar car barn to a motorbus garage. At this time, several changes were made to the basement level's east side in order to accommodate the storage, maintenance, and servicing of buses.

Substantial renovations were again done to the building in the 1980s and early 1990s. In 1983, a 12 ft. high brick wall was built around the facility's north, east, and south side to screen the garage and act as a noise barrier (Valge 1985, 1). Additional renovation work done in 1987 included replacing all the original windows with metal frames and replacing the original roof with a steel frame roof (NRHP 2013, 11). In 1989 major renovation and new construction started on the building. Five rowhouses, a store, and an autobody repair shop all on Buchanan Street were demolished, along with the 1926 east addition. These buildings and the garage addition were replaced by a one-story addition to the garage. The new addition resulted in the Northern Bus Garage covering almost the entirety of Squares 2811 and 2815 and including a one-story open parking deck to the north and east of the original car barn. At the north end of the building a new bus entrance and ramp down to the basement was constructed, and an elevator tower was added. This work was completed in 1992.

The original 1906 building footprint is retained inside the current, much larger building but this historic fabric contains many alterations. The lower level contains historic columns, ceiling slabs, original brick walls and stepped concrete foundation. The basement floor is new and lower than the original, and new bases were added to the original columns. Outlines of high bricked-in windows are visible in the basement, along with an original smokestack that was altered, but it retains the original coal chute door.

Sections of the original north façade of the building are evident adjacent to the 1987 north end bus entrance. Brick walls with stone quoins and stone stringcourses, water tables and bases are evident. A pavilion with truncated hip roof contains slate shingles, and a coved entablature with stucco finish. This feature dates from the original construction, however it caps walls containing large bus openings cut into the walls during the late 1980s. The angled wall on the north

elevation is also original, but it also has a non-original large rectangular bus opening cut into the wall face.

Additional upper level extant historic fabric includes a perpendicular brick wall that extends south from the original north wall. A long north-south section of the east or rear wall of the original building is also evident and contains bricked-in large arch windows similar to windows that pierce the façade. These window opening have 3 brick header row arches and are infilled with CMU block, brick, louvers, and some have partial or full glazing. An oculus window is located above and features square muntins. This round window marks the apex of the shallow slope gable feature of the original rear wall. The south interior wall of the original building appears to have been replaced with CMU block.

The exterior north end of the façade is marked by an arched bus opening dating from 1980s renovation work and consisting of brick with cast stone detailing to resemble the original architecture of the streetcar barn. South of this non-historic opening, the next section of the façade consists of an original streetcar/bus entry, administrative building, another original streetcar entrance and the original tower, a grand campanile addition to the Italian villa Administrative Building. Behind the original vehicle entrance opening and the administrative building is another tower that houses the elevator stair added in the late 1980s renovation. Similar to the northern most vehicular opening, the 1980s tower was designed to blend in with the 1906 architecture.

The diagonal streetcar opening next to the original tower contains a modern overhead door and the adjacent wall has been bricked in and a centered solid single leaf door added. The 3-story tall tower dominates the façade and marks the location of the southern half of the façade fronting the maintenance areas with the original transfer tables. The adjacent bus entry was added between 1949 and 1962, along with two flanking doors. The pediment over this opening is original to the 1906 building. Additional bus entrance and doors were added 1987 – 1992. The south end pedimented bay contains a bricked-in window arch with stone keystone. Flanking this pedimented pavilion are more alterations, including a large bus entry to the north of the replaced two large arch windows. This opening like the others added in the late 1980s has cast stone molded trim and keystone. The last two, or southernmost, arch windows were changed to double doors with arch transoms and concrete stairs accessing a community room.

Public Outreach and Comment

As part of the initiation of consultation in 2019, notification letters were sent out to organizations that were considered potential consulting parties due to their interest in the preservation of historic properties. Notification of the project and basic project description was provided, along with the concept site plan and draft APE (Attachment B). Recipients were the National Capital Planning Commission, the DC Preservation League and the Advisory Neighborhood Commission, ANC-4C. These parties were asked to comment on the undertaking's potential to effect historic properties. No responses or comments were received.

Subsequent public meetings conducted to meet WMATA Program Comment requirements elicited response from public groups. Both the 16th Street Neighborhood Association and the

Uptown Main Street organization requested the DC SHPO and FTA grant them consulting party status under 26 CFR Part 800. The Northern Busbarn Neighbors also requested consulting party status. All three requests were granted. In addition, ANC 4C02 representative Maria Barry and Ulysses Campbell, ANC 4C03 Commissioner requested and received consulting party status in November of 2020.

The March 11 ANC-4C meeting included discussion of the project and provided the public an opportunity to comment on the undertaking's effect on historic properties at the meeting or via an email or mail sent to WMATA. The meeting was used to announce the opportunity for public comment at the March 26, DC Historic Preservation Review Board (HPRB) meeting. Due to the COVID lockdown, the meeting was changed to a virtual meeting and held on May 28, 2020. The meeting included the preservation office staff report and recommendation, public comment from a representative of the Northern Busbarn Neighbors and a concept level presentation of the project by WMATA.

The DC HPO staff report for the HPRB May 28, 2020 meeting stated concern over the scale of the building not reflecting the scale of the residential neighborhood. Recommendations included further refinement of the Arkansas and Buchanan street elevations and breaking down the exterior walls' large voids. DC HPO staff noted that the presentation materials included vegetative panels that were not part of the application submission. Public comment was provided by a Northern Busbarn Neighbors representative Mr. Talib Uqdah, who questioned the overall building design stating that the building would not fit in with the early 20th century architecture of the neighborhood. He stated that the presentation did not contain renderings of the Arkansas and Iowa Street elevations. After some discussion between the applicant and the HPRB Board, the chairman of the HPRB moved the applicant revise the plans and return to the board for further review. The motion was unanimously passed. Minutes from this HPRB meeting are included in this report as Attachment C.

WMATA had applied to the DCRA for a demolition permit in September of 2020. This triggered another review by the HPRB and WMATA presented three alternative designs to HPRB during their virtual meeting on September 24, 2020. The Staff Report, again, referred the project to the Mayor's Agent to determine if the project was of special merit and recommended "further design review to ensure final plans include an appropriate scope of preservation and restoration work to offset the loss of historic fabric" (Lewis September 24, 2020).

WMATA developed a revised Community Engagement plan and used the second of four public meetings (November 11, 2020) for a Section 106 Consulting parties' consultation. A copy of the flyer for this public outreach effort is attached as Appendix D. The four (4) virtual community engagements took place in October and November of 2020. Community members were asked to register, and the presentations included question and answer sessions.

The first of four virtual community engagement meeting updated the public on the project status and design developments. A summary of project developments over the past few months included value engineering and budget issues. The value engineering resulted in the project plan or footprint being reduced and the amount of bedrock substantially reduced. Three new exterior designs were developed reflecting HPRB guidance and public comments.

An updated schedule was presented, identifying current community engagement including exterior design discussion, a December presentation of the final design to the HPRB, and a Mayor's Agent hearing on the project receiving special merit status. Dates for further review and permits are to be determined, but a target date for beginning demolition and construction is the first and/or second quarters of 2022. An online survey on the three alternative exterior designs was open from October 13, 2020 to October 27, 2020 and the results can be found at https://www.wmata.com/initiatives/plans/northern-bus-garage/upload/NBG_Community-Meeting-4_FINAL.pdf.

Following further design development, along with review and comment by the DC SHPO staff, WMATA and FTA decided to conduct another consulting parties meeting to discuss measures of minimization and mitigation. The DC SHPO had provided a few ideas and was wanting consulting party input before proceeding with developing a Memorandum of Agreement. Invitations to a virtual meeting were sent to Northern Busbarn Neighbors, Uptown Main Street, Sixteenth Street Neighborhood Association, ANC 4C-02, ANC 4C-03, FTA, and the DC SHPO. The email invitation contained brief information about existing and proposed design minimization and mitigation and emphasized the need for consulting party input on minimization and mitigation to move the process forward to conclusion.

All consulting parties participating in the meeting, except the Sixteenth Street Neighborhood Association. The meeting started with Jeff Winstel, WMATA Architectural Historian, presenting a power point presentation. The presentation provided a brief overview of the Section 106 process, including FTA Community Planner Dan Koenig explaining the role of the federal agency in the process. Steps in Section 106 that were completed were noted and additional steps needed were identified. Accepted and proposed minimization and mitigation measures were presented, followed by a request for input on this information and request for additional ideas.

The consulting parties expressed interest in installing the trolley tracks where they were historically, being laid from the street to the building entrance. There was no interest in adopting an alternative paving or artwork to mark the track alignment. Support was expressed for interpretive signage that was not only about the building but the history of the building and its association with the history of the neighborhood, including the intersection of transportation history and racial history. Ideas to be further explored included the possibility of architectural salvage. Interpretive wayside exhibits were discussed for both outside the front of the building and inside the community room. Copies of the meeting minutes and the power point presentation were provided to all participants (Attachment E).

Minimization and Potential Mitigation

Mitigation is to be commensurate to the degree and nature of the adverse effect. The adverse effect of the undertaking is the demolition of most of the building. Although the significance of the building is mostly conveyed by the façade, the MPD states that one of the registration requirements is retention of the original form or a shed-like appearance. Evidently, the brick wrap-around barrier wall along with the addition and alterations dating from the late 1980s and early 1990s did not negate a sense of the building's original form or having a shed-like

appearance. The proposed new construction may or may not achieve a sense of the original form or sense of shed-like structure. The undertaking will substantially change the building.

The minimization includes the documentation of historic fabric and restoration of elements of the 14 Street NW façade. The purpose of documentation of historic fabric is to identify what remains after all the renovation work done from 1983 to 1992. As mentioned, the listing of the building in the NRHP was after the renovation work and includes the entire building, except for the perimeter wall (Buell 2012, 1). Although the nomination provides good documentation of the changes made to the building, it doesn't explicitly identify remaining historic fabric. The Historic Fabric Analysis has the purpose of identifying and documenting historic fabric beyond the façade and guide design development of the new construction.

While some of the historic fabric will be lost due to the Northern Bus Garage Replacement project, the project presents further minimization of adverse effects by restoring parts of the 14 Street NW façade. The Historic Fabric Analysis identified changes made to the façade fenestration and additions added in the 1983 – 1992 period. The final plans for the project are to include retention of some original windows, removing the 1980s stair tower, restoring northwest corner of original building exposing historic arched windows, replacing the windows in the 14th Street NW façade, opening all bricked-in openings in the façade, brick and cast stone masonry cleaning and pointing, and reconstruction of the chimney. In addition, proposed mitigation includes a pattern/graphic pavement at location of historic trolley tracks with interpretive signage and architectural lighting of the historic 14th Street original façade.

Summary and Next Steps

The 1906 Capital Traction Car Barn was designed as a showpiece for a traction car line competing with other streetcar lines in Washington D.C. during the late 19th early 20th century period. With urban and middle-class growth, streetcar suburbs played an important role in how cities developed. The high-style Italian Renaissance Revival design of the Capital Traction Car Barn, with its massing of two Italian villas and a central grand campanile was regarded as a standout piece of streetcar barn architecture.

The building's ownership and function changed over time, eventually becoming a major motorbus storage and repair facility known as the WMATA Northern Bus Garage. Although alterations began in 1926, it was the late 1980s and early 1990s expansion and alterations of the building that resulted in the greatest change to the building. The façade along 14th Street NW however retains most of the building's historic fabric and character. In 2012 and 2013 the Northern Bus Garage was designated a DC Historic Landmark and listed in the NRHP.

An analysis of current and future WMATA Metrobus fleet needs indicated that Northern Bus Garage's location facilitates service to important high use downtown bus lines and relocating the facility would substantially increase operating costs. The building's poor condition and new technologies that had to be accommodated in the building strongly suggest the need for substantial modifications to the Northern Bus Garage. Concept plans were developed for preserving the 14th Street NW façade and some original side walls, demolishing the remainder of

the building, and constructing a new garage facility incorporating the preserved façade and historic side walls and their architectural elements.

WMATA intends to seek funding from the FTA for the Northern Bus Garage, making the project a Section 106 undertaking. Consultation with DC SHPO and consulting parties as appropriate has taken place starting in 2019 and continues as WMATA and FTA seek consensus on potential measures to mitigate the adverse effects of the project on the historic Northern Bus Garage. The Historic Fabric Analysis was produced by a WMATA consultant in order to minimize adverse effects and provide additional identification and documentation of existing historic fabric of the building and supports the design and identification of measures that will minimize the impacts on the historic property. The DC SHPO also requested the restoration of façade elements as potential minimization. WMATA and FTA have developed an outreach strategy, which includes this document, opportunities for the public to comment on the project, and targeted consultation with identified consulting parties. The last consulting party meeting took place on July 29, 2021. The meeting discussed and identified mitigation measures that will be captured as stipulations in the draft MOA. Consulting parties will be provided a draft copy of this document. The prospective signatory parties are WMATA, FTA and the DC SHPO. Comments received from the consulting parties regarding the MOA will be attached to this report, along with the fully executed MOA for the Northern Bus Garage Renovation Project.

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Appendixes

Appendix A: Northern Bus Garage Historic Fabric Analysis

Appendix B: Public Notification of Initiation of Section 106 Consultation

Appendix C: Public Meeting Minutes, March 11, 2020, OP HPO Staff Report and HPRB Meeting Minutes, May 29, 2020

Appendix D: Virtual Public Engagement Meetings Flyer

Appendix E: Section 106 Consulting Parties Meeting, July 29, 2021 Meeting Minutes and Power Point Presentation

Appendix A:

Northern Bus Garage Historic Fabric Analysis



1914 Photograph of the Northern Bus Garage looking southeast (DC History Center)

NORTHERN BUS GARAGE – HISTORIC FABRIC ANALYSIS

February 2020

**BEYER
BLINDER
BELLE**

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Introduction

The Northern Bus Garage is listed in the National Register of Historic Places (NRHP) (listed in 2013) and the D.C. Inventory of Historic Sites (designated in 2012). The building is located at 4615 14th Street NW and was constructed by the Capital Traction Company in 1906. The building was referred to as the Capital Traction Company Car Barn or the Decatur Streetcar Barn. In 1959, the streetcar barn was converted to a bus garage, and in 1966 was transferred to WMATA. The building is a vital storage and maintenance facility for WMATA's bus transportation services. The original building, designed in the Italian Renaissance Revival style, is a one-story brick masonry building with partial basement level, the length of which spans two city blocks. The building appears to be two complementary masses; one being a two-story structure used as administrative offices and the other housing the repair shops and garage and featuring a three-story tower. The building was significantly altered during the 1987-1992 renovation work. During this time, the southern and eastern elevations of the building were enveloped in a one-story addition with rooftop parking. Decatur Street, to the north, was enclosed and substantial demolition to the roof, interior columns, and basement floor slab also occurred. Additionally, there were many alterations to the administrative offices and the original building elevations.

Current operational and programmatic challenges require that the bus garage be rebuilt while preserving the historic 14th Street façade of the building. It is important that the Northern Bus Garage Replacement Project (the project) meet WMATA's goals of modernization, sustainability, increased community integration, and flexibility for the future needs of electric buses while preserving the historic fabric that retains integrity and expresses the significance of the building.

FTA-funded projects undertaken by WMATA are subject to Section 106 of the National Historic Preservation Act (NHPA), requiring Federal agencies take into account the effects of their undertakings on historic properties and, if the project is determined to have an adverse effect, afford the Advisory Council on Historic Preservation (ACHP) the opportunity to comment on such undertakings. The Section 106 process was initiated in April 2019, and the undertaking was determined to have an adverse effect by FTA and the DC State Historic Preservation Office. The ACHP then declined to participate in the consultation. The project also requires DC Historic Preservation Review Board (HPRB) review and approval because of its status as a DC Historic Site. Through the Section 106 process, the FTA has determined that mitigation will be required and recorded in a Memorandum of Agreement.

History and Significance of the Building

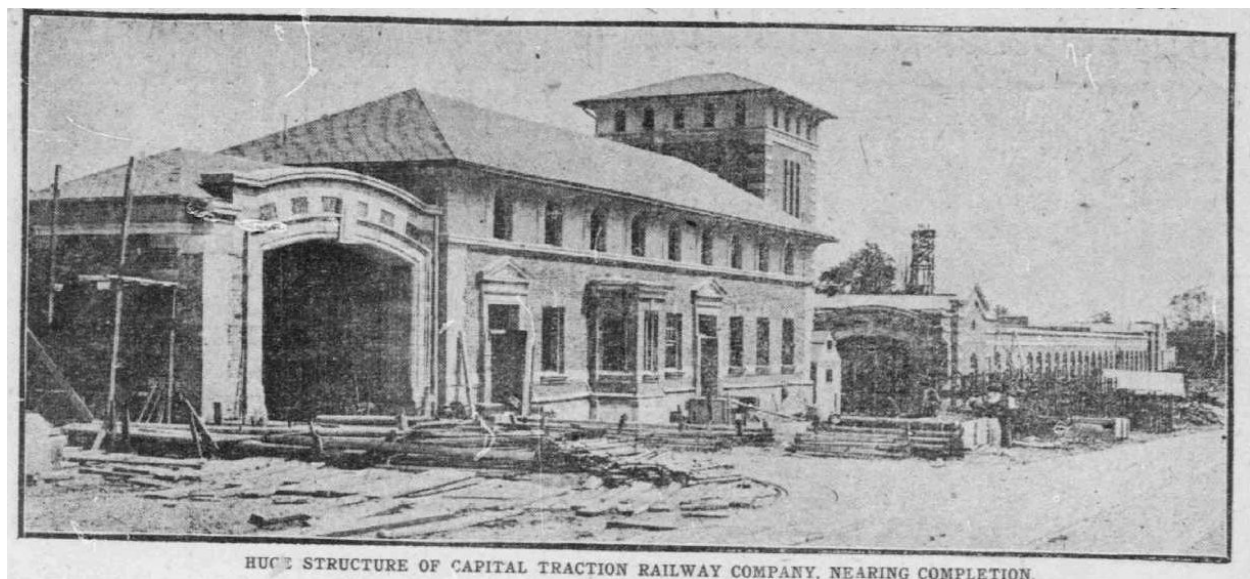
The bus garage was constructed in 1906 to serve as a streetcar storage and maintenance facility and house administrative offices for the Capital Traction Company (**Figure 1**). The building was designed by architecture firm Wood, Donn and Deming and was built by construction firm Richardson and Burgess, opening in 1907. In 1926, the basement portion of the building was leased to the Washington Rapid Transit Company for bus maintenance and storage. Between 1956 and 1962, all D.C. streetcar lines were eliminated or converted to bus routes. In 1959, the building was converted to a bus garage, and ownership was transferred to WMATA in 1966.¹

¹ National Register of Historic Places, Capital Traction Company Car Barn, Washington, D.C., National Register #13000290

The Northern Bus Garage building was listed in the D.C. Inventory of Historic Sites in 2012, and in the NRHP in 2013 under Criteria A and C for its architectural and historic significance.² It is considered an outstanding example of Italian Renaissance Revival design for its building type and is directly associated with the streetcar system, a public transportation system that helped develop and determine development patterns of the District of Columbia.³ The building is also eligible for designation under the multiple-property document Streetcar and Bus Resources of Washington, D.C. 1862-1962. According to the multiple property documentation form, to remain eligible under Criterion C, the building must retain its high-style architectural design as well as its original form or shed-like appearance and the streetcar entry openings.⁴

The building's period of significance is from 1906-1959, spanning the period when it served as a streetcar barn.⁵ The period of significance ends when it was converted to a bus garage. Since 1959, many significant alterations have been made to the building.

Figure 1. 1906 photograph of the car barn and administrative offices during construction (Washington Times)



² Under NRHP Criterion A, properties are eligible for listing if they are associated with events that have made a significant contribution to the broad patterns of our history. Under NRHP Criterion C, properties are eligible for listing if they embody the distinctive characteristics of a type, period, or method of construction, or represent the work of a master, possesses high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction. Under the criteria for the DC Inventory, the property is eligible for designation based on the following values: history and architecture and urbanism.

³ National Register of Historic Places, Capital Traction Company Car Barn, Washington, D.C., National Register #13000290

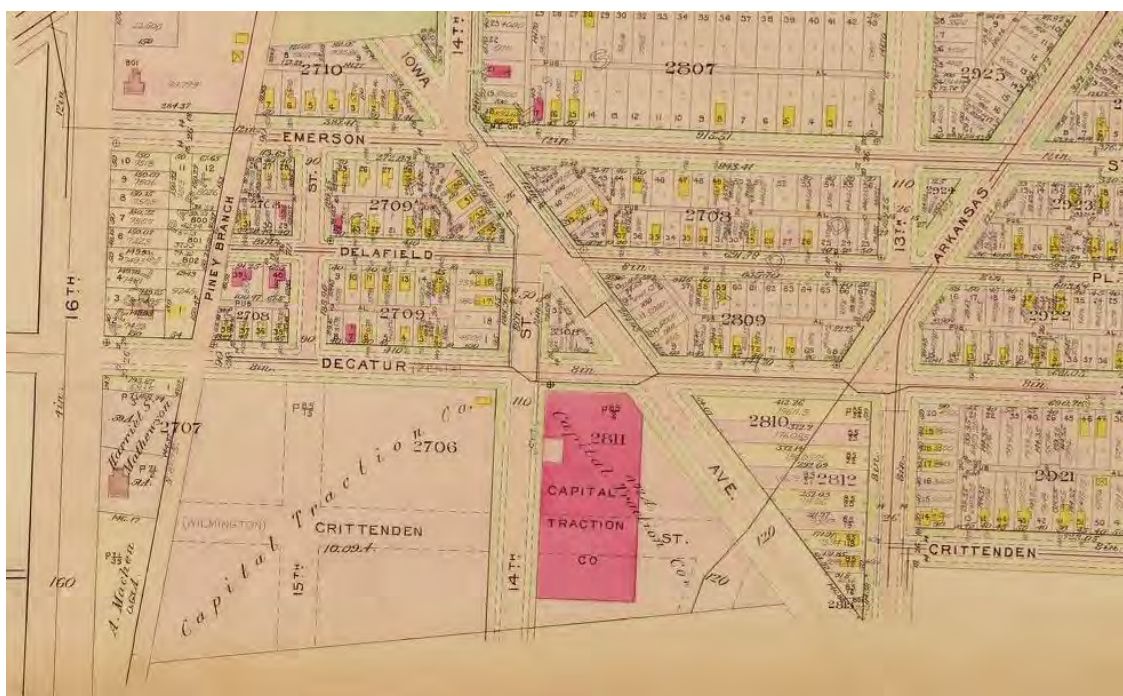
⁴ National Register of Historic Places, Streetcar and Bus Resources of Washington, D.C. Multiple Property Listing, Washington, D.C., #64500948

⁵ National Register of Historic Places, Capital Traction Company Car Barn, Washington, D.C., National Register #13000290

Physical Description and Chronology of Development

The Northern Bus Garage site is bounded by 14th Street to the west, Decatur Street to the north, Iowa Ave to the northeast, Arkansas Ave to the southeast, and Buchanan Street to the south. The main façade of the building faces 14th Street, and therefore, the west façade is the most decorative. As originally constructed, the brick masonry car barn measured 537 feet (north-south) by 208 feet (east-west), occupying nearly half of the site on Square 2811 and a portion of Square 2815. As platted, the two squares were intended to be divided by Crittenden Street. However, because of the construction of the car barn, the road was never laid, and the squares remained joined. The 1911 Baist Real Estate Map shows the original footprint and surrounding streets of the garage. It is interesting to note the residential character of the neighborhoods to the north of the garage and that the Capital Traction Company owned the squares west of 14th Street, yet the area was not developed at the time (**Figure 2**).

Figure 2. 1911 Baist Real Estate Map; Decatur Streetcar Barn is the pink building labeled as the Capital Traction Co. (Library of Congress)



The building was designed to look like two complementary masses: a two-story structure housing the administrative offices, featuring a hipped roof with overhanging eaves, and a two-story car barn and repair shop, accentuated by a grand three-story tower with a clerestory. As designed and constructed, the garage consisted of an upper (main level) entered along 14th Street and a partially excavated lower (basement) level, accessed from the south elevation of the building. Exterior character-defining features included brick walls accented with stone belt courses, quoining, and keystones; shallow-pitched hipped roofs of the tower and administrative offices, and bracketed eaves (**Figure 3**). The garage and repair shop featured a flat roof with several large skylights and a front gable parapet. The building originally featured three streetcar entrances and exits on the west façade: two facing west and framing the

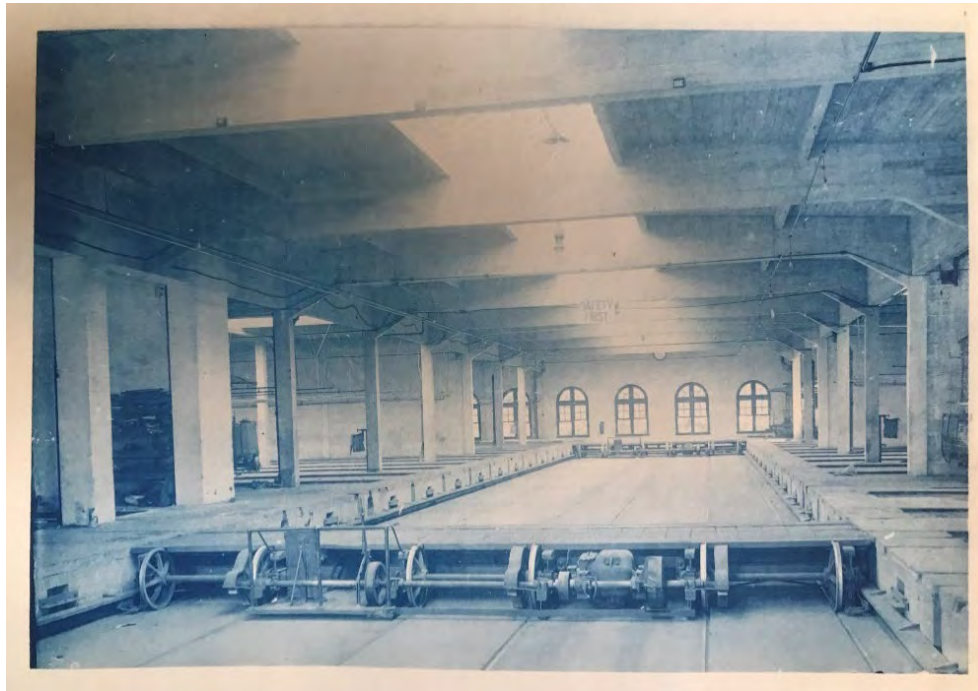
administrative offices and one facing north, immediately adjacent to the tower. Arched window openings on all elevations provided light to the garage and repair shop. The administrative offices, tower, and several projecting pavilions along the north and west elevations featured rectangular windows.

The interior of the car barn contains concrete columns which support the roof. Skylights and the arched window openings provided plentiful daylight. The upper level featured two transfer tables, allowing for the efficient mobility and storage of the street cars. The transfer tables ran parallel to each other from the front (west) to rear (east) elevations of the building (**Figure 4**).

Figure 3. 1914 exterior photograph of the northwest corner of the streetcar barn showing the administrative offices, tower, and two of the three original streetcar openings. (DC History Center)



Figure 4. 1914 interior photograph of the Decatur Streetcar Barn showing the transfer table in the foreground and the skylight above (DC History Center)



In 1926, the Washington Rapid Transit Company, established in 1921, leased the lower level of the garage from the Capital Traction Company to use for buses. According to the NRHP nomination, a one-story addition was added to the east elevation of the building at this time to provide storage facilities for the buses. The addition is visible in the 1959 Sanborn map and a 1974 aerial photograph of the bus garage (**Figure 5** and **Figure 6**). It is possible that the 1926 addition was expanded after 1959, as it appears slightly larger in the 1974 photograph.

Presumably, many interior alterations were made circa 1959 when the streetcar barn was fully converted to a bus garage. The streetcar openings along the west façade continued to be used as bus entries and exits to the garage and repair shops. It is likely that the transfer tables and bays for the streetcars were infilled. Boring samples completed in December 2019 have revealed that partial track infrastructure is extant, although encapsulated in concrete infill.

Exterior photographs indicate that an additional bus opening was added on the west façade between 1949-1962, immediately adjacent to the north facing opening to the south of the tower. The opening was cut within the pedimented projection, requiring the removal of an arched window opening. A molded cast stone surround, complementing the surrounds of the original openings, was installed. Photographs from 1974 also indicate that an arched window opening at the southern end of the west façade, to the right (south) of the pedimented parapet, was changed to a doorway.

Figure 5. 1959 Sanborn map showing the garage (then owned by the Capital Transit Company) and the 1926 addition at the east side (Capital Traction Company Car Barn National Register Nomination Form)

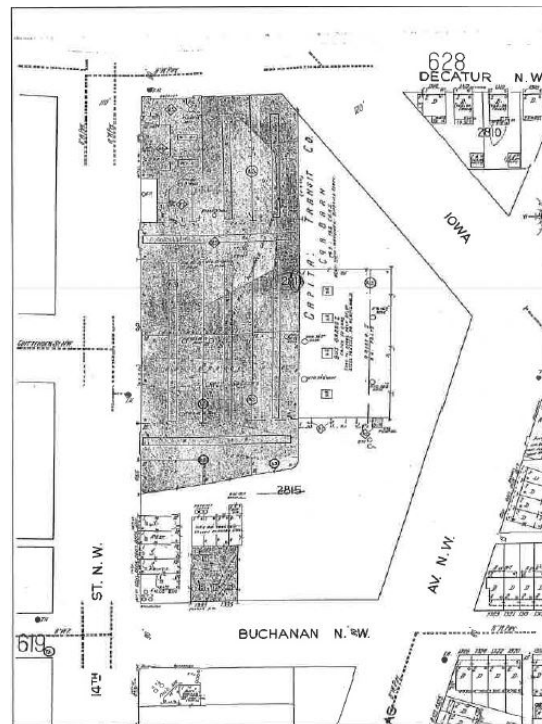


Figure 6. 1974 photograph of the bus garage looking northwest; the 1926 addition is visible on the right (WMATA Archive, George Washington University Special Collections)



The date of the construction of the smokestack at the south elevation of the garage is unknown, but photographs indicate it was constructed after 1914 and before 1962, likely dating to the period of significance. It was constructed to exhaust smoke from the coal-powered boiler room located in the lower level, as discerned from 1978 renovation drawings (Figure 7). In the 1980s, it was altered with new openings to accommodate updated mechanical equipment.

Another instance of unknown alteration occurred to the north of the tower. 1914 blueprints show that the north elevation of the tower adjacent to the streetcar opening was originally exposed, however, 1978 existing condition drawings show that an angled wall had been built at the streetcar opening, closing off the north elevation of the tower. Today, the wall is still extant, and a doorway has been inserted. (Figure 8)

Figure 7. 1978 Renovation drawing; red arrow shows the smokestack adjacent to the boiler room and coal storage (WMATA)

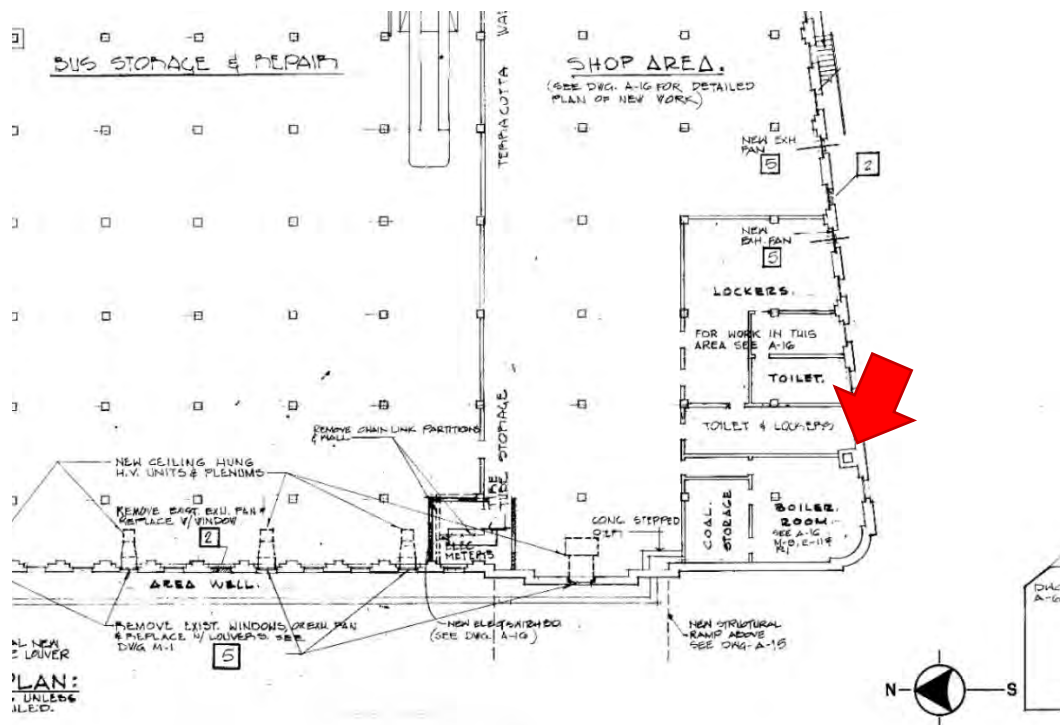


Figure 8. Angled brick wall on right constructed sometime after 1914 and prior to 1978. The other angled wall with the overhanging door was added after 1978 (BBB)



Numerous significant alterations to the property occurred in the 1980s. To reduce noise from bus operations to the surrounding neighborhoods, a thirteen-foot high red brick wall was erected in 1982-1983 around the WMATA property. The wall encircled nearly all of Squares 2811 and 2815, except for the southwest corner at Buchanan and 14th Streets.

From 1987 to 1992, the bus garage underwent a phased renovation and addition. The 1926 bus garage addition to the east of the original structure was demolished, and a one-story maintenance facility and garage with rooftop parking was constructed within the 1983 property wall, wrapping the east, south, and north elevations of the building (**Figure 9**). The majority of the original roof was demolished and rebuilt except for roofing over several bays at the northern end and a bay that remained along the full perimeter of the building (**Figures 10 and 11**). All but two of the original wood windows were replaced with aluminum windows, and several window openings were enclosed or changed to bus openings. A bus entry was inserted at the southern end of the west façade, immediately left (north) of the pedimented parapet at that end (**Figure 12**). To the right (south) of the pediment, an additional window was changed to a doorway (**Figure 13**).

The north and majority of the east elevations of the building were enclosed by the addition and bus ramp. The ramp descends west to east and north to south, following the topography of the site. As a result, Decatur Street, between 14th Street and Iowa Avenue, was closed to traffic and incorporated into the bus garage. A truncated roof encloses the original north elevation of garage. The original north elevation, which featured arched window openings, was significantly altered with new bus openings, allowing buses to easily move from the garage to the bus ramp and exit at Decatur and 14th Streets (**Figure 14**). The east elevation was enveloped by the addition. The original east elevation arched window openings are still present, although many of the fanlights have been infilled with brick or

replaced with louvers. The original east wall remains visible at the upper level interior and from the roof of the 1987 addition (**Figure 15**). The addition also made significant alterations to the south elevation of the original structure. The lower level of the south elevation was fully enclosed and many of the windows at the upper level were removed and filled with glass block.

Figure 9. Contemporary aerial image of the bus garage looking southeast (Google)



Figure 10. 1987 photograph looking east showing the extent of the demolition of ceiling and roof structure except for one bay along the perimeter of the east wall (WMATA Archive, George Washington University Special Collections)



Figure 11. Original roof structure removed during the 1987-1992 renovation in green. Red outline shows the original footprint of the garage and the blue outline shows the contemporary property outline. Building outside red outline added during the 1987-1992 renovation (BBB)



Figure 12. Bus entry at the southern end of the west façade added during the 1987-1992 renovation (BBB)



Figure 13. Two doorways to the right of the pedimented bay are non- historic. Left window opening changed to door prior to 1974 and right window changed to a door during the 1987-1992 renovation (BBB)



Figure 14. A truncated roof shelters the original north elevation and Decatur Street. Large bus openings punched in wall during the 1987-1992 renovation (BBB)



Figure 15. 1987 roof addition abuts original east elevation. Several arched windows infilled with brick (BBB)



Significant interior alterations were made to the administrative offices. Rooms were reconfigured and a new stair and elevator tower addition was constructed at the north end of the office building. The stair and elevator tower was designed to match the Italian Renaissance Revival style of the rest of the building and features the same materials, a slate hipped roof, overhanging eaves with brackets, and similar brick detailing. The interior of the garage was also altered. The majority of columns on the upper level were removed and reconstructed when the majority of the roof was demolished and rebuilt. On the lower level, the original columns and ceiling slab remain, however, the concrete floor slab was removed, and the floor was excavated approximately 12 inches and re-laid. The original columns and exterior walls are supported by non-historic concrete footings to adjust for the lowered floor (**Figure 16**).

Figure 16. Lower level of the bus garage; the original columns and ceiling are present, however, the concrete floor was removed and excavated in the 1980s. The new concrete footings below the columns are visible in the photo (BBB)



Summary of Exterior Conditions

The administrative offices and 14th Street façade exterior building fabric are in overall fair condition. Open and debonded masonry joints are present but are concentrated in vertical facing joints at the building cornices, projecting string courses, and sills. The stone and brick masonry exhibit limited spalling, cracks, perforations from ferrous metal inserts or previous attachments, inappropriate past masonry repairs and patches, soiling, and biological growth. Cracks and spalling are especially present at the stone cornice and the stone surrounds at the original streetcar openings along 14th Street. (See **Figure 17**) The pebble-dashed stucco material present at the eaves of the administrative offices and tower is in good condition, as are the hipped slate roofs. Areas of previous slate replacement are visible but appear to be in good condition.

Repair and restoration of the administrative offices and 14th Street NW masonry façade will require a variety of treatments. Cracks should be repaired and patched with grout and restoration mortar with a composition matching that of the original. Structural cracks may require the insertion of pins to further stabilize the masonry. Small spalls may be tooled to sound stone so that further spalling doesn't occur, and that water doesn't collect or pool. Larger spalls may require restoration mortar patches or Dutchman masonry repairs. All open and debonded joints should be repointed using matching mortar and missing masonry patched with matching materials. Ivy plants growing on the masonry should be carefully removed. The masonry should be cleaned using the gentlest means possible to remove soiling, staining, and biological growth. Soiling is especially apparent at the cornice and at the base of the building.

Figure 17. The north facing streetcar/bus opening adjacent to the tower exhibiting stone cracking, spalling, and masonry soiling requiring repair (BBB)



Summary of Treatment and Effects to the Historic Fabric

As discussed above, the bus garage has experienced many alterations across its 114-year history, especially as a result of the 1987-1992 renovation. Such changes have affected the integrity of the historic fabric. The 14th Street façade has been altered the least and retains much of its original Italian Renaissance Revival design. The façade, including the administrative offices and tower, has a high level of integrity of design, materials, and workmanship. The remaining elevations have been significantly modified and the integrity of design, materials, and workmanship has been diminished. The same can be said for the interior of the garage, which was significantly altered by the removal of the majority of the upper level columns, lower level slab, and roof structure.

The drawing below shows the existing historic masonry walls overlaid on the design for the upper level of the new bus garage. (See **Figure 18**) Due to the alterations of the historic fabric and the need for a new bus garage that can accommodate efficient and safe vehicle circulation for 40'-0" and 60'-0" articulated buses, the existing bus garage must be replaced. The new bus garage will also ensure adequate height clearance for newer diesel buses and future overhead charging for electric buses, be reorganized to expand the number of maintenance bays and bus storage parking, incorporate a retail element for increased community integration, will be able to 100 percent filter exhaust air, and will reduce operating costs through sustainable strategies. The replacement bus garage project proposes that the east wall and the majority of the north and south walls be demolished. However, the entire west façade, including the administrative offices and tower, would be retained and preserved allowing for the conservation, repair, and cleaning of areas of damage, weathering, soiling, and staining. There is also the opportunity to replace the existing windows with replicas of the historic windows and restore window openings that were previously infilled or replaced with louvers. Such treatments would be developed as design coordination for the project continues. Portions of the upper level of the north and

south elevations, immediately adjacent to the west façade, may be retained but will require continued design coordination and input from the Section 106 process and other review processes, before a final decision on treatment can be made.

Bibliography

Primary Resources

D.C. History Center

The D.C. History Center, located at the Carnegie Library in Washington, D.C. holds several photograph collections, including the John P. Wymer collection, Kathleen Sinclair Wood collection, the Crockett streetcar photo collection, and the Joseph Jessel streetcar slide collection, which had several photographs of the Northern Bus Garage from the 1940s through the 1960s. The Capital Transit Company records are also located at the History Center, which included photographs and blueprint drawings from 1914.

WMATA Archive at the George Washington University Special Collections Library

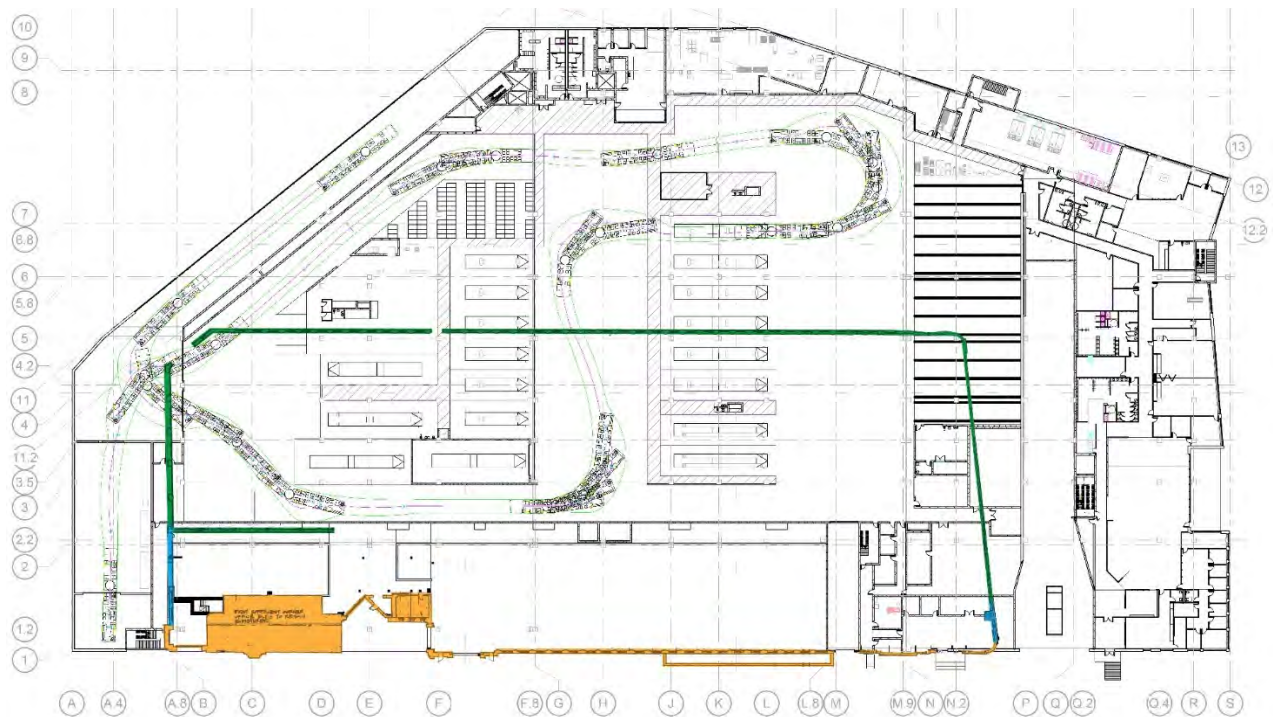
The WMATA Archives at the George Washington University Special Collections Library held many photographs of the bus garage from 1974 and of the 1987-1992 renovation and addition work.

Secondary Resources

National Register of Historic Places, Capital Traction Company Car Barn, Washington, D.C., National Register #13000290

National Register of Historic Places, Streetcar and Bus Resources of Washington, D.C. Multiple Property Listing, Washington, D.C., #64500948

Figure 18. Proposed upper level plan of bus garage with historic overlay; the 14th street (west) façade will be retained along with the administrative offices and tower (Wendel)



- Historic Fabric to Remain
- Historic Fabric to be Removed
- Historic Fabric TBD*

*Potential opportunities for retention of historic fabric. Requires continued design coordination.

Appendix B:

Public Notification of Initiation of Section 106 Consultation



April 19, 2019

Mr. Michael H. Halpern
Commissioner ANC-4C,
1418 Shepherd Street NW
Washington, D.C. 20011

Dear Mr. Halpern,

RE: Section 106 Process Notification, Northern Bus Garage Replacement

The Washington Area Metropolitan Transit Authority (WMATA), with the Federal Transit Administration (FTA), is preparing to preserve the façade of the Northern Bus Garage and replace the remainder of the garage building, located at 4615 14th Street, N.W. In accordance with the *National Historic Preservation Act* and *36 CFR Part 800, Provisions for providing notice and information*, this letter serves as project notification and provides the opportunity to comment on potential impacts to historic properties resulting from the project.

WMATA has found this structure increasingly difficult to maintain and it does not meet the need for storing and servicing the 60 ft. long articulated Metro buses. Concrete within the building is de-laminating and spalling; to protect workers, nets have been installed. Due to structural concerns, buses no longer use portions of the building. The location of the garage however, remains central to the needs of serving high-demand downtown bus lines in central Washington, D.C. The proposed replacement project will preserve in place the character-defining 19/6 Italian villa style façade, maintain the existing massing of the garage structure, alleviate parking pressure on the neighborhood and accommodate Metrobus service and storage needs at this important location.

The Area of Potential Effects (APE) to historic properties was determined by the distance from which the proposed project can be seen at street level. The only historic property in the APE is the National Register of Historic Places (NRHP) listed Capital Traction Company Car Barn, currently referred to as the Northern Bus Garage. Assessment of effects did not include archaeological resources because the undertaking will only involve previously disturbed ground. Most views from historic properties within the Historic/ Architectural APR are obscured by non-historic buildings and landscaping. The proposed garage replacement project will result in the alteration and destruction of historic material, which is not consistent with the Secretary of the Interior's Standards for the Treatment of Historic Properties.

The FTA anticipates that the proposed undertaking will have an adverse effect on the listed NRHP historic property within the APE, and anticipates further coordination with the D.C. Historic Preservation Office. Please see enclosures depicting the garage in plan with the façade to be preserved highlighted, proposed building elevation, and the APE. Please submit written comments to WMATA within the next few weeks, preferably before May 20, 2019:

Sincerely,

Jeff Winstel, AICP
Architectural Historian

cc: Rebecca Miller, Executive Director DC Preservation League
Lee Webb, Historic Preservation Specialist, National Capital Planning Commission

Enclosures

Washington
Metropolitan Area
Transit Authority

1400 K Street, NW
Washington, DC 20004
(202) 637-7000

Jeff Winstel
Architectural Historian
1400 K Street, NW
Washington, DC 20004
(202) 637-7000

4000 Reservoir Road
Washington, DC 20007
(202) 637-7000



Appendix C:

Public Meeting Minutes, March 11, 2020, OP HPO Staff Report and
HPRB Meeting Minutes, May 29, 2020

Meeting began at 6:30 pm.

At the appropriate point, Commissioner Maria Barry called on WMATA to offer a presentation.

Jim Ashe introduced himself, Jeff Winstel, Gretchen Pfaehler, Ann Chisholm and David Wehe of the project team.

J. Ashe then explained he was at the meeting for two purposes: to solicit a letter of support from the ANC to the Historic Preservation Review Board for the proposed design and to solicit comments under the Section 106 process. J. Ashe then provided an overview of the project (see copy of presentation). For 106/historic preservation comments, attendees were advised to use the comment forms. One comment was received.

After the presentation, a commissioner asked if, when the new Northern Bus Garage is opened, WMATA will commit to working towards city's goal of having only new tech electric bus fleet. WMATA indicated that was the intention.

WMATA stated that it would preserve the historic façade. It was noted that the original building, including the façade is considered historic and is part of the designated National Register of Historic Places property.

WMATA asked of a letter of support for the project from the ANC-4C to provide to the DC Historic Property Review Board (HPRB) for its hearing on March 26, 2020.

A commissioner noted that they had heard from the community with concerns about the design of the new building but clarified that they were not considering the design aspect tonight, only the historic preservation aspect. The community will be given opportunities in the future to comment on the design at future design charettes.

WMATA also informed the commission and attending public that the project has a website that provides more project information and an opportunity to comment:
<https://northernbusgarage.com/contact-us/>.

WMATA also stated that the comment sheet provides an address and email that can be used to provide written comments.

The attending public was asked if anyone had questions.

One community member stated that the retail component of the project was very important and inquired what the square footage for the retail space will be. WMATA stated that square footage was under discussion internally and would provide this information to the commission for

distribution. The community member stated that this is a very long and prominent building on an important street so retail would be great at this location.

Another community member asked if there was going to be a community room. WMATA stated that a final decision on this has not been made, and there was ongoing discussion. The community member stated that this would be useful and considered very important by the community.

A commissioner requested motion be adopted for a letter of support for the project to the HPRB. Motion seconded and passes unanimously.

**NORTHERN BUS GARAGE REPLACEMENT
PUBLIC COMMENT FORMS
ANC-4C Meeting, March 11, 2020**

Section 106 of the National Historic Preservation Act provides the public with the opportunity to comment on the project's effects on historic properties.

Please use this form to provide WMATA with any comments regarding the effects of the Northern Bus Garage Replacement project on historic properties.

Comments can also be provided in writing addressed to WMATA, 600 Fifth Street NW, Washington, DC 20001, Attn: Jeff Winstel, or by email to JFWinstel@wmata.com

My name is Kea Taylor and I am a ^{property owner} ~~resident~~ of the 1100 block of Buchanan St. NW, a couple of blocks from the Bus Barn.

My concerns about the Bus Barn are:

- 1) as a mother of an eight year old, I'm particularly concerned about the emissions of the buses being housed there.
- 2) the proximity of the area schools to the Bus Barn, ensuring that poor quality air is a problem for students at West Elementary, MacFarland and Roosevelt.
- 3) Seeing as the buses are housed elsewhere during renovation, why can't the buses remain there until the buses are updated with a more green alternative.

I AM REQUESTING THAT FOR MY HEALTH and THE HEALTH OF MY FAMILY AND STUDENTS AND RESIDENTS ^{APPROVAL OF} THAT THE WMATA BUS BARN REPLACEMENT BE DEPENDENT ON WMATA REDUCING THE NUMBER OF NON-ELECTRIC BUSES HOUSED THERE.

Kea Taylor
202.726.0287

THANK YOU!



HISTORIC PRESERVATION REVIEW BOARD STAFF REPORT AND RECOMMENDATION

Landmark/District: **Decatur Street Car Barn/Northern Bus Garage** (X) Agenda
Address: **4701 14th Street, NW** () Consent Calendar
Meeting Date: **May 28, 2020** (X) New Construction
H.P.A. Numbers: **20-176** (X) Alteration
(X) Demolition

The Washington Metropolitan Area Transit Authority (WMATA), Beyer Blender Belle Architects and Wendel Architects seek conceptual design review for an extensive renovation of the historic Decatur Street Car Barn and its substantial additions. The goal of the project, which includes rehabilitation, demolition and new construction, is to modify the facility so it meets current bus garage standards.

Decatur Street Car Barn

The Decatur Street Car Barn was designed in the Italian Renaissance style by the local architectural firm of Wood, Donn and Deming, and constructed for the Capital Traction Company in 1906-1907. The National Register nomination describes the building as "...a high style and sophisticated piece of architecture...deliberately designed to serve as a company landmark..." Its most prominent façade, which faces 14th Street, resembles a 16th century Italian villa and features a prominent tower, large arched streetcar openings, a long arcade of windows, and decorative stone detailing such as keystones, quoins and belt courses. The building was originally 537 feet by 208 feet and occupied approximately half of its site, but that changed significantly as the carbarn was converted for bus garage use over time.

Bus-related modifications began as early as 1926 when the lower level started being used for bus storage and an addition was constructed on the east side for similar purposes. By 1959, the entire building was converted to a bus garage. WMATA assumed ownership of the property upon its creation in 1967 and substantially expanded the building in 1989-1992 via construction of a large, one-story bus maintenance facility and storage area. This expansion replaced virtually the entire roof of the original building, destroyed a great deal of historic interior fabric, altered the original exterior, and enclosed Decatur Street to provide additional bus egress, thus effectively engulfing the historic car barn in new construction. Upon completion, the bus garage occupied its entire site. However, the historic building still retained sufficient integrity to be designated a DC landmark in 2012 and listed in the National Register of Historic Places in 2013.

Proposal

Substantial renovation is necessary to accommodate WMATA's expanding and modernizing bus fleet. Larger spaces are required to allow 40' and 60' articulated buses to circulate

through the facility; additional clearance is necessary for taller diesel buses and planned overhead charging equipment for electric buses; more service bays and storage areas are needed to meet future needs; and additional space is required to house updated air filtration equipment, solar panels and office space for WMATA employees. In order to meet these project goals, WMATA proposes to gut most of the existing building, reconfigure the interior, and construct new levels above and below.

Evaluation

The proposed extensive modifications will destroy practically all remaining historic interior fabric, the original eastern wall, and the majority of the car barn's north and south elevations, thus resulting in substantial demolition that is inconsistent with the purposes of the DC Historic Landmark and Historic District Protection Act (Act). To offset this loss, the 14th Street elevation will be largely restored, and portions of the north and south façades will be retained and revealed to express the car barn's historic configuration.

Restoration of the primary 14th Street elevation will include in-kind replacement of slate roofs, substitution of 1980s windows with historically accurate replacements, removal of brick infill, demolition of a non-historic stair tower, and a variety of standard preservation treatments such as repointing, crack repair and cleaning of the brick facade. The large arched openings that originally provided ingress and egress for streetcars will be glazed with new storefront entries to facilitate adaptive use of former administrative areas for community retail. One of the historic arcade windows will be also be converted to a door to provide additional retail ingress/egress.

On the southern end, new construction will be set back to expose the distinctive rounded corner and two bays of the former streetcar barn as well as the original smokestack that is located just beyond. These features will provide historic interest and offer a sense of the building's original form, especially when viewed from the intersection of 14th and Buchanan Streets. The design of the newly constructed office wing nearer to the intersection has been made compatible with the historic building by echoing the horizontal belt courses and rhythm of its windows, and by using similarly scaled brick that is similar in color to the stone details of the streetcar barn.

To the north, the new stair tower required to provide access to all existing and proposed levels of the facility has been designed as a simple glazed structure that maximizes views to the remaining portions of the historic north façade while the 1980s historicist Decatur Street enclosure has been redesigned as a simple contemporary structure that is clearly distinguishable as new construction.

The newly constructed upper levels, including the anticipated solar arrays, will be sufficiently set back to allow the Decatur Street Car barn to read like a historic building rather than a mere façade. These new levels will also be positioned far enough to the east to be minimally visible from 14th Street.

Even though the remaining elevations of the bus garage do not adjoin any historic fabric, are not visible from historic portions of the building, and are not located within a historic district,

their relationship with the surrounding community could be improved. As the landmark's 14th Street elevation illustrates, it is possible for large-scale industrial buildings to compatibly co-exist with much smaller residential buildings if they have a commensurate scale, materials and detailing. The Historic Preservation Office (HPO) encourages the design team to revise the elevations proposed for Iowa and Arkansas Avenues and for Buchanan Street so that they reflect the smaller residential scale and detailing that are characteristic of the surrounding neighborhood.

Recommendation

HPO recommends that the Board:

- 1. Acknowledge that extensive renovations are necessary to meet project goals;*
- 2. Find that those aspects of the proposed concept relating to restoration of the 14th elevation and preservation of portions of the northern and southern elevations are appropriate for the historic Decatur Street Car barn;*
- 3. Find the proposed demolition of remaining historic fabric inconsistent with the purposes of the DC Historic Landmark and Historic District Protection Act, and recommend that the case proceed to the Mayor's Agent for review; and*
- 4. If the Mayor's Agent determines that the project is found to constitute a project of special merit and/or consistent with the Act, request that the Mayor's Agent direct the applicants to return to HPO for further design review to ensure final plans include an appropriate scope of preservation and restoration work to offset the loss of historic fabric.*

Staff Contact: Andrew Lewis

Meeting notes

J. Winstel (draft July 7, 2020)

May 28, 2020 The Historic Preservation Review Board convened a public meeting via WebEx. Board members present for the meeting were: Marnique Heath, Chair; Andrew Aurbach, Outerbridge Horsey, Sandra Jowers-Barber, Gretchen Pfaehler. Absent: Thomas Brokaw, Linda Greene.

Item 2. Decatur Streetcar Barn

HPA 20-176

Concept review for new construction and rehabilitation

Andrew Lewis (DC SHPO)

Staff reports that the level of demolition is inconsistent with the building's landmark status and robust restoration of 14th Street façade is meant to offset this. Concerns include the new construction.

Mr. Lewis also notes that public notification of the hearing is considered a public comment opportunity under Section 106 consultation with the Federal Transit Authority and the Washington Area Metropolitan Transit Authority (WMATA) for this project

Diane Levy (WMATA) opened the presentation noting that this is considered an important quarterly project for WMATA and WMATA has included a retail strategy for the front of the building, developed through several regular meetings with area stakeholders.

Andrew Lewis (DC SHPO) had no questions about the retail strategy and noted that the corner of 14th Street and Buchanan Avenue is very prominent and questioned if it blends into the residential character of the area.

Mr. Lewis suggests massing could be changed to be more in scale with the neighborhood. The south end of the building was discussed, and it was noted that the design pulls the new construction back so the original building curve could be retained along with character of the smoke stake. Does the board feel this needs further refinement? Staff report recommends further refinement of the Arkansas and Buchanan elevations. Suggest redesign breakdown the scale – large voids need to be more compatible with smaller residential buildings. Vegetative panels are new – HP staff was unaware of these.

Outerbridge Horsey (HPRB member) stated that the design seems to be on the right path and asked what is the big opening in bottom of façade?

Sean B (STV Inc.) responded this is a drop off exterior fueling area connecting to the fuel tank.

Outerbridge Horsey (HPRB) asked what is above that?

Sean B (STV Inc.) identified the area as an outdoor employee patio.

Outerbridge Horsey (HPRB) asked if the SE corner is glazing?

Sean B (STV Inc.) confirmed that it is glazing.

Outerbridge Horsey (HPRB) remarked that as Andrew (Lewis) said whatever the designers can do to break down the scale would be helpful and they should work with the HP staff.

Outerbridge also asked about the extended canopy.

Sean B (STV Inc.) stated that the extended canopy covers the main entrance

Outerbridge Horsey (HPRB) asked if there is an opportunity to reduce this canopy?

Marnique Heath (HPRB Chair) commented on the materials palette, specifically the southeast side panels, asking for clarification of where panels rest and the thinking behind the planted panels.

Sean B (STV Inc.) stated that these are tactical panels and are also used in the concrete patio area along Buchanan.

Marnique Heath (HPRB Chair) asked if he was referring to the large balcony.

Sean B (STV Inc.) referencing slide 50, stated that wall panels include live materials that break down the scale and provides different textures and colors, adding that the functional needs of the facility provide little room for push & pull of the design. The greenery will help mitigate dust in the area and will always be green and vibrant.

Marnique Heath (HPRB Chair) asked if there were going to be trees along the sidewalk.

Sean B (STV Inc.) stated he was not sure.

Phil Sheridan (STV Inc.) stated that there are some significant old growth trees in the area particularly along Buchanan and Arkansas avenues. The trees are not protected but will be replaced with need.

Marnique Heath (HPRB) stated that HPRB had received a letter of approval from ANC 4C and one person has registered to testify.

Mr. Upgdah identified himself as the registrant and stated that he represented two collaborative groups. He stated he owned properties on Blocks 46 and 47, and represented the 14th Street Uptown Business Association, the 16th Street Heights Neighborhood, and the Northern Bus barn Neighbors. He is also a registered consulting party for Section 106.

Mr. Upgdah stated that the overall design looks like an Industrial Prison complex not a transportation facility. Commercial façade design is meant to blend into the community and early 20th century architecture. The arch window openings should extend to street and were to be converted to working doorways and not be hidden behind a glass alley. The community needs to live with this building for the next 100 years. Arkansas and Iowa sides are not shown in the renderings, but these streets have 2 blocks of residential property. Slide 56 has a view to the south that should include the large Orthodox church, which accommodates upwards of 4,000 people on a regular basis. The plans do not blend in with the neighborhood.

Marnique Heath (HPRB) asked if the applicant wanted to address the building scale in regard to the residential community.

WMATA had no response at this time

Marnique Heath (HPRB) asked if the HPRB had further questions.

Dr. ? (HPRB member) thanked Mr. Upgdah for his comments and wondered about the scale and massing of the businesses on other side of 14th Street NW, adding that the prison comparison is not completely out of bounds in his opinion. He added that the building occupies the corner of Buchanan and 14th Street in an overpowering way.

Sean B (STV Inc.) stated he disagrees with the prison analogy. Streetsense, the retail planning consultant, stated that the glass view of street would break down the banding from the historic building and the highest point of the site slopes down dramatically, adding that the car parking on the upper level is screened from view, and actually is in scale with the existing building because of the 8'-9' drop. He added that the architects didn't want the bus entry to compete with the historic façade and the canopy banding extenuates the entrance and has been pulled back significantly. The street elevation is in line with the building.

Phil Sheridan (STV Inc.) stated that regarding comments about the community space amenity, addressing Mr. Upgdah, the SHPO did not want to add more on the 14th Street façade.

Andrew Lewis (SHPO) stated that they are trying to engage community and integrate the historic building. The project is retaining arch windows – a very long band of arch windows – does relate to the community but, the SHPO does not want to make significant changes to the street elevation.

Marnique Heath (HPRB) asked if there were any other questions and if the board wanted to deliberate?

Outerbridge Horsey (HPRB) stated he supported the staff report and denial of extensive demolition and referred the case to Mayor's Agent.

Andrew Lewis (SHPO) Stated Mr. Horsey's statement is consistent with the Act (D.C. Law 2-144, D.C. Code §6-1101 et seq.).

Outerbridge Horsey (HPRB) expressed concern about the west elevation and community room being 9' above the sidewalk, which doesn't seem very inviting. A greater concern he identified as the east elevation, which goes on forever, and he doesn't understand or support the green panels. He would like the neighbors to be more involved in the discussion.

Andrew Lewis (SHPO) pointed out the staff report notes the need to renovate, modernize, and upgrade. He cited as an example the Cleveland Park Fire Station and added the project overall is in scale and support the project's ambition. The materials and relation to the street need to be further explored. He stated that the case should be sent to the Mayor's Agent and move forward with further work with preservation office staff and neighbors.

Dr. ? (HPRB) stated his support of the staff report recommendation to forward project to the Mayor's Agent.

Marnique Heath (HPRB Chair) asked if there was any argument opposing the staff report. She stated she agrees with comments and feels it needs more comment. The scale of the building needs to recede back and be consistent with residential area and be more responsive to the surroundings. Plant panels are too busy and do not break down the scale, doesn't make building more pedestrian, and does not achieve any screening or softening of the sides. She stated her support for staff report and asked applicant to come back to the board and respond to board comments and community comments.

Marnique Heath (HPRB Chair) moved that applicant revise the plans and come back for further review. Motion passes unanimously.

Official record of meeting

<https://planning.dc.gov/sites/default/files/dc/sites/op/publication/attachments/HPRB%20ACTIONS%2005%202015.pdf>

GOVERNMENT OF THE DISTRICT OF COLUMBIA

HISTORIC PRESERVATION REVIEW BOARD 1100 4th Street SW, Suite E650, Washington, D.C. 20024 (202) 442-8800 fax (202) 442-7638

HPRB ACTIONS

May 28 and June 4, 2020 May 28, 2020

The Historic Preservation Review Board convened a public meeting on May 28 via WebEx. Present for the meeting were: Marnique Heath, Chair; Andrew Aurbach, Outerbridge Horsey, Sandra Jowers-Barber, Gretchen Pfaehler. Absent: Thomas Brokaw, Linda Greene.

AGENDA

HISTORIC LANDMARK

Decatur Street Car Barn/WMATA Northern Bus Garage, 4615 14th Street, NW, HPA 20-176, concept/new construction/rehabilitation.

The Board unanimously approved the staff report conditioned upon revisions to make the Arkansas and Iowa Avenues and the Buchanan Street façades more compatible with the surrounding residential

context by breaking down the scale of the elevations, refining the materials palette, redesigning the vegetative panels in a more cohesive fashion, and ensuring that trees are incorporated on site. The Board also recommended that the new construction at the southwest corner of the site be revised to be more welcoming and compatible with the scale and character of the adjacent commercial development, especially the canopy and entry stair. Finally, the Board requested that the local community be involved in revising the designs for the new construction and that the updated plans be resubmitted to the Board for additional review. Vote:4-0 (Pfaehler recused)

Appendix D:

Virtual Public Engagement Meetings Flyer



VIRTUAL COMMUNITY ENGAGEMENT MEETINGS

MEETING #1 Tuesday, October 13 Project & Design Update	MEETING #2 Monday, November 2 Draft Design Conversation
MEETING #3 Tuesday, November 10 Environmental Conversation	MEETING #4 Tuesday, November 17 Final Design Presentation

All meetings begin at 6 pm. For more information, visit wmata.com/NorthernBusGarage.



Appendix E:

Section 106 Consulting Parties Meeting, July 29, 2021
Meeting Minutes and Power Point Presentation

Northern Bus Garage
Section 106 Consulting Parties
“Teams” Virtual Meeting
July 29, 2021
10:30 – 11:30 am

Participants:

Jeff Winstel, WMATA
Jim Ashe, WMATA
Diane Levy, WMATA
David Wehe, WMATA
Dan Koenig, FTA
Shauna Haas, FTA
Andrew Lewis, DC SHPO
Maria Barry, ANC 4C02
Ulysses Campbell, ANC 4C03
Gabriela Mossi, Uptown Main Street (UMS)
Taalib-Din Uqdah, Northern Bus Barn Neighbors (NBN)

Invited:

Sixteenth Street Neighborhood Association

Meeting started with a PowerPoint presentation by Jeff Winstel (WMATA), providing overview of Section 106 process, steps that have been completed, and remaining steps, emphasizing need for consulting parties input on mitigation of adverse effect.

The PowerPoint presentation is attached at end of minutes

Dan Koenig (FTA) emphasized the need for discussion to be focused on measure of mitigation for the adverse effect under Section 106 of the National Historic Preservation Act to the Northern Bus Garage building.

Andrew Lewis (DC SHPO) asked about interpretive signage being included as mitigation, along with the trolley tracks placed in the sidewalk. He also stated that he would prefer actual tracks in the pavement rather than pavers or sidewalk art depicting their alignment and asked what community members would prefer. Mr. Lewis acknowledged the Historic Fabric Analysis, which will be useful to assess minimization efforts. Mr. Lewis also stated an interest for getting feedback from the Consulting Parties on the proposed mitigation measures.

Maria Barry (ANC 4C02) stated a preference for actual streetcar rails.

David Wehe (WMATA) noted that the sidewalk may be used for outdoor eating and the tracks could be a safety hazard; however, the design of them was noted as needing to be investigated to ensure ADA compliance.

Dan Koenig (FTA) stated that the tracks can be ADA compliant and be installed flush with the pavement so they would not be a tripping hazard.

Maria Barry (ANC 4C02) added that they would be flush, unlike the historic tracks in Georgetown, which are a safety hazard.

Andrew Lewis (DC SHPO) stated pavers marking location of the trolley tracks would not read as tracks.

Taalib-Din Uqdah (NBN) asked for clarification regarding the red line on aerial photograph of the neighborhood on slide 6, and if the entire building is considered historic.

Jeff Winstel (WMATA) stated that the entire building is considered historic and the red line is the Area of Potential Effect, or simply put, the area from which the project can be seen.

Taalib-Din Uqdah (NBN) Stated that the entire building is not historic, noting that the section of the building that was constructed by eliminating Decatur Street is not historic and the parking on the south end of the building is not historic or dates from historic period identified as 1906 to 1959.

Andrew Lewis (DC SHPO) explained that the entire building has been designated a DC Historic landmark and listed in the National Register of Historic Places.

Taalib-Din Uqdah (NBN) stated that what the red line does not show is the racial history associated with the building and neighborhood, along with the role transportation played in the development of the neighborhood and city.

Taalib-Din Uqdah, (NBN) added that perhaps the interpretation could include something creative such as laser lights that would highlight the tracks or showing a trolley car entering the building.

Jeff Winstel (WMATA) noted that the racial history is associated with the building and neighborhood and could be incorporated into the interpretation.

Taalib-Din Uqdah (NBN) referenced interpretive signage located along Missouri Avenue associated with the Walmart that had a very large photo but the narrative is too small to read, stating that people shouldn't have to strain to read an exhibit about the Northern Bus Garage.

Andrew Lewis (DC SHPO) added that any interpretive media be of a scale and scope to other interpretive signage, adding that the community room could also contain some historic photographs of the facility and some interpretive signage, or a website could be developed that focuses on the building and neighborhood history. He also noted that the consulting parties will have opportunities to review and comment on the interpretive media.

Taalib-Din Uqdah (NBN) stated he appreciates knowing that and recalled that in 2006 WMATA was celebrating 100 years of transit history, but black people did not share in this celebration and as someone with a personal connection to the building, having worked there, he has something to add to the consultation regarding interpretation.

Jeff Winstel (WMATA) paused to welcome Ulysses Campbell ANC 4C03 to the meeting, and then noted that Mr. Uqdah is correct regarding the building's association with black history as this facility was one of the last to racially integrate during the Civil Rights era and that is a large part of the building's story.

Taalib-Din Uqdah (NBN) stated that he recalled someone telling the community that there would be 20,000 square feet of commercial space in the front of the building. This space could incorporate signage that relates to the history of the building. He also questioned how commercial signage and interpretive signage would be regulated or combined along the façade.

Andrew Lewis (DC SHPO) stated that signage would be subject to Historic Preservation Review Board review because the building is a DC Historic Landmark, and this is part of the city zoning ordinance. He further noted that it may be possible to briefly reference this in the Memorandum of Agreement preamble, but typically the Advisory Council on Historic Preservation, the federal oversight agency for Section 106, discourages including local zoning as a part of agreement documents.

Dan Koenig (FTA) stated that we have had a good exchange of mitigation ideas from the consulting parties. Two things that stand out are the interest in interpretive signage and installation of tracks in the sidewalk.

Shauna Haas (FTA) asked if other consulting parties had comments or preferences for the mitigation, specifically asking for comments from Uptown Main Street and the ANCs.

Gabriela Mossi (UMS) noted that the city has very strict guidelines regarding signage adding that appropriate signage in a neighborhood is key to defining the character of the neighborhood. She stated that her board and commercial tenants are very interested in the project and strongly supports following ADA requirements, highlighting the community's history -- the good and the bad -- adding that folks make an effort to include and value all points of view.

Dan Koenig (FTA) asked if WMATA has experience developing interpretive signage and adding the Andrew Lewis and the DC SHPO office could provide assistance with placement and size.

Andrew Lewis (DC SHPO) stated he intends to work with his colleagues and identify a larger context for interpretation and will look at various options. The MOA should provide initial input regarding one or two approaches to mitigation, noting that interpretive materials could be brought into the building and some businesses may want to use local history in their spaces as well.

Taalib-Din Uqdah (NBN) agreed with Andrew Lewis and noted that currently there is no signage that indicates the building was a bus barn. This is a 2-block square where you don't know it's a bus barn, but we should not have too many signs on the property.

Andrew Lewis (DC SHPO) asked about WMATA's Art in Transit program noting that the ANC stated interest in some art on the southeast corner of the building and requested it relate to the building's historic function.

Taalib-Din Uqdah (NBN) noted the community has people with photographs that can be incorporated into exhibits, and we need to reach out to older residents and their children to see if they have any photographs.

Ulysses Campbell (ANC 4C03) asked about the timeline for the Memorandum of Agreement.

Andrew Lewis (DC SHPO) stated there was no set timeline except the document must be completed and signed before construction starts. Given the type of mitigation being proposed the finalization of the document shouldn't take much time, perhaps 2 to 3 months.

Taalib-Din Uqdah (NBN) asked if the building is being demolished can we get the construction company to allow community members to put aside [salvage] some building materials as souvenirs to frame for new businesses and houses?

Jim Ashe (WMATA) remarked that's a good suggestion and that WMATA will look into it.

Dan Koenig (FTA) stated we want to be respectful of everyone's time and WMATA will put together minutes for this meeting. We have discussed using interpretive signage and installing trolley tracks for mitigation, along with architectural salvage. Andy Lewis from the DC SHPO gave us a good idea of the time frame for getting the Memorandum of Agreement done. Are there any additional comments or closing comments?

Andrew Lewis (DC SHPO) requested that the restoration scope of work for the remaining portion of the historic building be detailed and added as Appendix A to the Memorandum of Agreement.

Gabriela Mossi (UMS) stated she will pass on all this information to her board members, noting they are very interested in this project.

Ulysses Campbell (ANC 4C03) remarked that in terms of the adverse effect, during construction the residents and businesses have to be protected from any damage caused by the construction, and they want to know that the construction will be performed in a thoughtful, careful, and constructive way.

Dan Koenig (FTA) stated the meeting was just focused on mitigation as it relates to the historic building and Section 106 but concerns about community safety during construction are helpful comments that will continue to be addressed through other forums.

Taalib-Din Uqdah (NBN) thanked us for hearing the community.

Dan Koenig (FTA) thanked everyone for their feedback and noted that comments were very helpful.

The meeting concluded around 11:30 am.

Northern Bus Garage Project Update

Section 106 Consulting Parties Meeting

July 29, 2021



Northern Bus Garage Reconstruction

Agenda

- Welcome and Consulting Party Introductions
- Section 106 Overview
- Role of Federal Agency FTA
- Project Status Updates
- Completed Section 106 Consultation Steps
- Remaining Step for Section 106 Consultation
 - Minimization
 - Mitigation
- Memorandum of Agreement and Section 106 Conclusion
- Questions



"Large Structure of Capital Traction Railway Company, Nearing Completion" 1906 Washington Times

Section 106 Overview

- Code of Federal Regulations: 36 CFR Part 800
- Role of Federal Agency in Section 106 Process
- Federal Undertaking is Project with Federal Funding, Permitting, or Licensing
- Determine Federal Undertaking's Effect on Historic Properties
- If Undertaking's Effects are Adverse,...
- Mitigate or Minimize Effects to Historic Properties

3

Consulting Parties

- Northern Busbarn Neighbors
- Uptown Main Street
- Sixteenth Street Neighborhood Association
- ANC 4C02
- ANC 4C03
- Federal Transit Administration
- Washington Metropolitan Area Transit Authority
- District of Columbia Historic Preservation Office



4

Project Status

- HPRB and Section 106 Consultation
 - April 19, 2019, Initial public outreach notification
 - March 11, 2020, ANC-4C meeting
 - May 28, 2020, HPRB meeting also Section 106 consultation
 - October 2020, and November 11, 2020, online survey
- Mayor's Agent approval of final design --PENDING
- DC HPRB approval of final design
- Consulting parties will be provided
 - Final design plans
 - Memorandum of Agreement
- Complete Section 106 process



1961 View of Trolley from Car Barn

5

Completed Steps of Section 106 Consultation

- Definition of Undertaking,
 - April 16, 2019
- Area of Potential Effect(s) APE
 - April 16, 2019
- Identified Historic Properties in APE
 - April 16, 2019
- Assessed Effect of Undertaking on Historic Properties in APE
 - DC SHPO, May 16, 2019
 - ACHP, July 18, 2019



Red Border Area of Potential Effect

6

Some Alternative Designs Presented

4/16/19 Concept Design



3/26/20 Designs



10/20/20 Designs for survey



7

Remaining Steps for Section 106 Consultation

- Address adverse effect
 - Minimization
 - Design development
 - Mitigation
 - Documentation, Interpretation of Building's History
- Memorandum of Agreement
 - Document Minimization and Mitigation



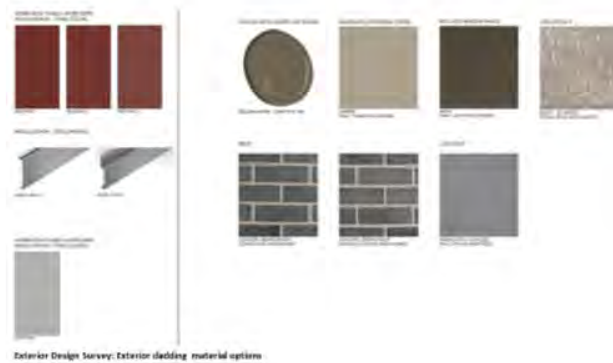
Preferred design by 81% of respondents to be used for basis of further design refinement

8

Minimization of Adverse Effect(s)

- Design Development

- Project scale reduced
- Large walls broken up in sections
- Exterior cladding material changed to palette compatible with historic building
- Reduction of size of building entrance southwest corner of 14th Street NW and Buchanan
- Recessed bus entry, south end on 14th Street NW
- Lower façade cornices and lightened color



9

Minimization of Adverse Effect(s)

- Design Development (continued)

- Replacing existing façade arch windows with historically appropriate windows
- Non-historic doors replaced with windows
- Restore northwest corner of original building, exposing historic arched windows
- Reconstruction of chimney at south end
- Brick and cast stone masonry cleaning and pointing

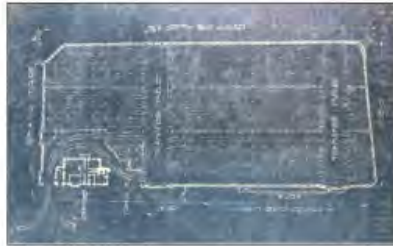


1980s Doors to be Restored to Windows

10

Mitigation of Adverse Effects

- Need Consulting Party Input
 - Historic Fabric Analysis (completed)
 - Architectural lighting of 14th Street NW historic façade (proposed)
 - Pavement design/art depicting or interpreting original location of trolley tracks (proposed)



Car Barn Track Layout



Historic Track Location in Front of Building



Julian Beebe: pavement drawing Yorkshire Water
<https://www.boredpanda.com/44-amazing-3d-street-art-chalk-works-by-julian-beebe/> <https://www.youtube.com/watch?v=30eDhwh0a0M> medium: <https://medium.com/@julianbeebepaint/pavement-art-3d-paintings-by-julian-beebe-30e3d3000000>

11

Memorandum of Agreement (MOA)

- After Minimization and Mitigation identified
- Documents the terms and conditions to resolve the adverse effects of an undertaking upon historic properties
 - MOA Signed (executed) by FTA, DC SHPO and WMATA
 - MOA records
 - Consultations with consulting parties
 - Minimization and Mitigation
 - Identify responsible parties and responsibilities
- Opportunity for Consulting Party Discussion of Mitigation

12

Thank you!

Appendix F:
Northern Bus Garage Reconstruction
Memorandum of Agreement

**MEMORANDUM OF AGREEMENT
AMONG
THE FEDERAL TRANSIT ADMINISTRATION,
THE DISTRICT OF COLUMBIA STATE HISTORIC PRESERVATION OFFICER
AND
THE WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY
REGARDING
THE NORTHERN BUS GARAGE RENOVATION PROJECT IN
WASHINGTON, DC**

WHEREAS, the Federal Transit Administration (FTA) plans to provide financial assistance to the Washington Metropolitan Area Transit Authority (WMATA) for the proposed renovation of the Northern Bus Garage, historically known as the Capital Traction Company Car Barn, which is listed on the National Register of Historic Places (NRHP; NR# 13000290, May 22, 2013) (Undertaking) and located at 4701 14th Street, NW; and

WHEREAS, the Northern Bus Garage Renovation Project (Project) consists of the stabilization, restoration, and preservation of the portions of the Northern Bus Garage along 14th Street, NW, including the administration offices and tower, and historic walls on the north and south ends of the building; the demolition of the remaining portions of the historic building and later, non-historic additions; and replacement of the demolished portions with a new building that will be connected to the preserved historic building; and

WHEREAS, FTA has consulted with the District of Columbia State Historic Preservation Officer (DC SHPO) regarding the Undertaking in accordance with 36 CFR Part 800, the regulations implementing Section 106 of the National Historic Preservation Act (54 U.S.C. § 306108); and

WHEREAS, FTA in consultation with the DC SHPO has determined the Undertaking's Area of Potential Effects (APE), as defined in 36 CFR § 800.16(d), as including the entirety of the Northern Bus Garage footprint, and approximately one block of residential or commercial structures along (clockwise starting north) Decatur Street NW, Iowa Avenue NW, Arkansas Avenue NW, Buchanan Street NW, and 14th Street NW, and viewsheds from the intersections of Crittenden Street NW and 15th Street NW facing east, Decatur Street NW, and 15th Street NW facing east, as depicted in Attachment 1; and

WHEREAS, FTA and DC SHPO have applied the criteria of adverse effect pursuant to 36 CFR § 800.5 and determined that the Undertaking will have an adverse effect on the Northern Bus Garage because it will result in the destruction of part of the historic building; and

WHEREAS, WMATA, as a recipient of Federal assistance for the Project, is a consulting party in the Section 106 process pursuant to 36 CFR § 800.2(c)(4) with a responsibility for implementing the terms of this Memorandum of Agreement (MOA) and is invited to sign this MOA as an invited signatory pursuant to 36 CFR § 800.6(c)(2); and

WHEREAS, FTA and DC SHPO invited Uptown Main Street, the Sixteenth Street Neighborhood Association, the Northern Busbarn Neighbors, DC Advisory Neighborhood

Commission (ANC) 4C02 and ANC 4C03 to be consulting parties pursuant to 36 CFR § 800.2(c)(5), and consulted with them regarding the effects of the Undertaking on historic properties; and

WHEREAS, in accordance with 36 CFR § 800.6(a)(1), FTA has notified the Advisory Council on Historic Preservation (ACHP) of its adverse effect determination with specified documentation, and the ACHP declined to participate in the consultation pursuant to 36 CFR § 800.6(a)(1)(iii);

NOW, THEREFORE, FTA, the DC SHPO, and WMATA (henceforth referred to as the Signatories) agree that the Undertaking shall be implemented in accordance with the following stipulations in order to take into account the effects of the Undertaking on historic properties.

STIPULATIONS

FTA and WMATA shall ensure that the following measures are implemented.

I. IMPLEMENTATION OF DESIGN PLANS

WMATA will construct the Project according to the design plans included in Attachments 2, 3, and 4. These design plans were determined to be the preferred design through robust Section 106 consultation and public outreach to ensure the following items are met:

- A. New construction illustrated in Attachment 2 will be compatible with the historic Northern Bus Garage; will incorporate projecting and receding elements to decrease the monolithic nature of the new structure along Arkansas and Iowa avenues; and use cladding material and visual patterning to further “break down the scale” of the new building, especially near building entrances and garage doors.
- B. Restoration work will be informed by the *Identification of Historic Fabric Report* included in Attachment 3 and implemented in accordance with the plans and narrative scope of work included in Attachment 4 to ensure that historic fabric from the 1906 to 1959 NRHP Period of Significance will be preserved and the historic portions of the Northern Bus Garage will remain prominent features of the overall Northern Bus Complex. Restoration work includes, but is not limited to, preserving and repairing existing historic fabric, restoring elevation elements that have been replaced with inappropriate elements, replacing inappropriate 1980s windows with historically appropriate replacement windows, and preserving and restoring historic sections of the north and south walls and the original smokestack. As part of its on-going review for DC building permits, the DC SHPO may require minor revisions to the plans in Attachment 4.

II. INSTALLATION OF REPLICA STREETCAR TRACKS

To illustrate and highlight the Northern Bus Garage’s original function as a streetcar car barn, WMATA shall install replica streetcar tracks in the area where streetcars used to enter and/or exit from the building along 14th Street, NW, as shown in Attachment 5. If the District Department of

Transportation's (DDOT) Public Space Committee does not approve streetcar tracks extending through public space to 14th Street, NW, WMATA will provide information to document the Public Space Committee's decision, and may revise the plans in Attachment 5 to limit the streetcar tracks to WMATA-owned property. Regardless of their extent, the tracks shall be ADA compliant and avoid tripping hazards. The replica streetcar tracks will be installed as part of building construction project and will be fully installed within one week of issuance of the building occupancy permit.

III. INTERPRETIVE SIGNAGE EXHIBITS

- A. In consultation with the DC SHPO and consulting parties, WMATA shall develop and install one (1) to three (3) exterior interpretive signage exhibits and up to five (5) interior interpretive signage exhibits for the building's community room as described in Attachment 6. The exterior interpretive signage exhibits shall focus on the historical and architectural characteristics that qualify the Northern Bus Garage for listing in the NRHP and explain the replica streetcar tracks described in Stipulation II above. The interior community room exhibits may focus on broader historical themes that relate to the role the Northern Bus Garage played in the development of the surrounding neighborhood and community, including, but not limited to, topics such as African-American history, commercial development, and social history.
- B. In developing topics and materials for the interior interpretive signage exhibits, WMATA shall solicit initial input from consulting parties and DC SHPO. WMATA will reach out to additional groups or individuals who are knowledgeable about community history as appropriate in developing the content for the exhibits, as described in Attachment 6.
- C. WMATA, in consultation with DC SHPO and FTA, will determine which topics will be pursued further, based on input received through outreach described in Stipulation III.B. and Attachment 6, and decide how many exhibits will ultimately be installed.
- D. WMATA shall provide full color digital drafts of all exterior interpretive signage exhibits and interior interpretive signage exhibits to the consulting parties and DC SHPO for review and comment in accordance with Attachment 6.
- E. Once the content, design, and location are approved by DC SHPO in writing, WMATA shall prepare and install the signage in the approved locations within 30 days of issuance of the building occupancy permit.

IV. REVISIONS TO THE PROJECT

If WMATA refines the design of the Project in a manner that may result in additional or new effects on historic properties, WMATA will notify FTA and the DC SHPO of such changes. Before WMATA takes any Project action that may result in additional or new effects on historic properties, WMATA, FTA, and DC SHPO will consult to determine the appropriate course of action.

V. UNANTICIPATED DISCOVERIES

- A. Archaeological Resources and Human Remains

1. In the event that a previously unidentified archaeological resource and/or suspected human remains are discovered during ground disturbance activities, all construction work involving subsurface disturbance will be halted in the area of the resource and in the surrounding area where further subsurface remains can reasonably be expected to occur.
2. WMATA shall notify the DC SHPO's District Archaeologist in writing via email and by telephone immediately.
3. The DC SHPO's District Archaeologist shall conduct a site visit within two working days (48 hours), if possible.
4. DC SHPO will contact the Metropolitan Police Department (MPD) and the DC Office of the Chief Medical Examiner (OCME) if suspected human remains are present per OCME protocols under DC Statute DC ST S 5-1406.
5. WMATA, FTA, and DC SHPO will consult to determine whether the resource is eligible for listing in the NRHP, and if so, whether adverse effects can be avoided or minimized.
6. If the resource is determined NRHP-eligible and adverse effects cannot be avoided, WMATA will propose a Treatment Plan to mitigate adverse effects. Upon concurrence by DC SHPO and FTA on the effects and Treatment Plan, WMATA will carry out the Treatment Plan.
7. Documentation, evaluation, and execution of the Treatment Plan will be undertaken by archaeology professionals meeting the requirements of Stipulation VI, comply with District guidelines for archaeology, and be conducted according to an archaeological work plan approved by the DC SHPO.

B. Architectural and Historic Built Environment Resources

1. If, in the course of implementing the Project, unforeseen and potentially adverse effects occur to above-ground historic properties within the APE, WMATA shall immediately halt all construction work within fifty (50) feet of the unforeseen effect and take all reasonable measures to avoid or minimize further unforeseen effects. WMATA shall notify FTA and DC SHPO of the issue as soon as practicable, but no later than 3 days following the unforeseen effect.
2. WMATA shall ensure that an architectural historian or historic architect meeting the requirements of Stipulation VI investigates the work site and the historic property within seven (7) days. Following the investigation, WMATA shall forward to FTA and DC SHPO an Assessment of Effects Report to the historic property and proposed Treatment Plan to resolve any adverse effects on historic properties. Upon agreement with the Effects Report and Treatment Plan by DC SHPO and FTA, WMATA will carry out the Treatment Plan.

3. At the conclusion of this consultation, WMATA will provide all parties that participated in the discovery consultation a written summary of the consultation and its resolution. This summary may be transmitted to the participants via e-mail.

VI. PROFESSIONAL QUALIFICATIONS

WMATA shall ensure that all historic preservation and archaeological work performed by WMATA or on its behalf pursuant to this MOA shall be accomplished by or under the direct supervision of a person or persons who meet(s) or exceed(s) the pertinent qualifications in the Secretary of the Interior's Professional Qualification Standards (48 FR 44738-9) in those areas in which the qualifications are applicable for the specific work performed.

VII. MONITORING AND REPORTING

Each year following the execution of this MOA until it expires, is fulfilled, or is terminated, WMATA shall provide the signatories a summary report detailing work undertaken pursuant to the MOA. Such report shall include a summary and update on work being carried out in accordance with relevant stipulations, any scheduling changes proposed, any problems encountered, any disputes or objections received, and related topics. WMATA shall provide the annual report to the Signatories on or before the date of execution of the MOA.

VIII. DISPUTE RESOLUTION

Should any Signatory object at any time to any actions proposed or the manner in which the terms of this MOA are implemented, FTA shall notify the other Signatories and consult with such party to resolve the objection. If FTA determines that such objection cannot be resolved, FTA will:

- A. Forward all documentation relevant to the dispute, including FTA's proposed resolution, to the ACHP. The ACHP shall provide FTA with its advice on the resolution of the objection within thirty (30) calendar days of receiving adequate documentation. Prior to reaching a final decision on the dispute, FTA shall prepare a written response that takes into account any timely advice or comments regarding the dispute from the ACHP and signatories and provide them with a copy of this written response. FTA will then proceed accordingly.
- B. If the ACHP does not provide its advice regarding the dispute within the 30-day time period, FTA may make a final decision on the dispute and proceed accordingly. Prior to reaching such a decision, FTA shall prepare a written response that takes into account any timely comments regarding the dispute from the Signatories and provide the Signatories and the ACHP with a copy of such written response.
- C. FTA and WMATA's responsibility to carry out all other actions subject to the terms of this MOA that are not the subject of the dispute remains unchanged.

IX. AMENDMENTS

This MOA may be amended when such an amendment is agreed to in writing by all Signatories. The amendment will be effective on the date a copy signed by all Signatories parties is filed with the ACHP. Revisions to any Appendix to this MOA determined to be non-substantive by the Signatories will not require an amendment to the MOA but must be agreed to in writing by the Signatories.

X. TERMINATION

If any Signatory determines that the terms of this MOA will not or cannot be carried out, that party shall immediately consult with the other Signatories to attempt to develop an amendment per Stipulation IX, above. If within 30 days, or another timeframe agreed to by all Signatories, agreement on an amendment cannot be reached, any Signatory may terminate the MOA upon written notification to other Signatories.

If the MOA is terminated, and prior to work continuing on the Undertaking, FTA must either: (a) execute another MOA pursuant to 36 CFR § 800.6; or (b) request, take into account, and respond to the comments of the ACHP pursuant to 36 CFR § 800.7. FTA shall notify the signatories as to the course of action it will pursue.

XI. GENERAL PROVISIONS

A. Counterparts; Electronic Signature

This MOA may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. This MOA may be signed electronically.

B. Distribution of MOA

Within one (1) week of the last signature on this MOA, FTA shall provide each Signatory and consulting party with one high quality, legible, full color, electronic copy of the fully-executed MOA and all of its attachments integrated into a single document. Internet links will not be used as a means to provide copies of attachments since links to web-based information often change. If the electronic copy is too large to send by e-mail, WMATA shall provide a copy of this MOA as described above, on a flash drive, compact disc, or other suitable, electronic means.

XII. DURATION

This MOA will expire if its terms are not carried out within ten (10) years from the date of execution, or when FTA determines that all stipulations have been satisfactorily fulfilled. WMATA shall notify FTA when the project is completed and there are no further opportunities for unanticipated discoveries as described in Stipulation V above. Prior to expiration, FTA may consult with the Signatories to reconsider the terms of the MOA and amend it in accordance with Stipulation IX.

Execution of this MOA and implementation of its terms evidences that FTA has taken into account the effects of the Undertaking on historic properties and afforded the ACHP an opportunity to comment.

**SIGNATURE PAGE
MEMORANDUM OF AGREEMENT
REGARDING
THE NORTHERN BUS GARAGE RENOVATION PROJECT
WASHINGTON, DC**

SIGNATORY

FEDERAL TRANSIT ADMINISTRATION

By: _____

Date: _____

Terry Garcia-Crews
Regional Administrator, Region III

**SIGNATURE PAGE
MEMORANDUM OF AGREEMENT
REGARDING
THE NORTHERN BUS GARAGE RENOVATION PROJECT
WASHINGTON, DC**

SIGNATORY

DISTRICT OF COLUMBIA STATE HISTORIC PRESERVATION OFFICER

By: _____

Date: _____

David Maloney
District of Columbia State Historic Preservation Officer

**SIGNATURE PAGE
MEMORANDUM OF AGREEMENT
REGARDING
THE NORTHERN BUS GARAGE RENOVATION PROJECT
WASHINGTON, DC**

INVITED SIGNATORY

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

By: _____

Date: _____

Andrew B. Off
Executive Vice President, Capital Project Delivery

LIST OF ATTACHMENTS

Attachment 1: Area of Potential Effects

Attachment 2: Building Elevations and Perspective Views

Attachment 3: WMATA Northern Bus Garage: Identification of Historic Fabric Report

Attachment 4: Restoration Narrative Scope of Work, Elevations and Plans

Attachment 5: Plans for Replica Streetcar Track Installation

Attachment 6: Interpretive Signage Exhibits

ATTACHMENT 1
AREA OF POTENTIAL EFFECTS
NORTHERN BUS GARAGE RENOVATION PROJECT
MEMORANDUM OF AGREEMENT



Area of Potential Effects —————

ATTACHMENT 2
BUILDING ELEVATIONS AND PERSPECTIVE VIEWS

**NORTHERN BUS GARAGE RENOVATION PROJECT
MEMORANDUM OF AGREEMENT**

ATTACHMENT 3
IDENTIFICATION OF HISTORIC FABRIC REPORT
NORTHERN BUS GARAGE RENOVATION PROJECT
MEMORANDUM OF AGREEMENT

ATTACHMENT 4
RESTORATION NARRATIVE SCOPE OF WORK, ELEVATIONS AND PLANS
NORTHERN BUS GARAGE RENOVATION PROJECT
MEMORANDUM OF AGREEMENT

Restoration Narrative Scope of Work

The restoration scope for the WMATA Northern Bus Garage will include the restoration of the 14th Street elevation; a 36'8" portion of the original south elevation, including the chimney; and a 28' 7" portion of the original north elevation. The restoration will include the removal of non-original alterations, including the c. 1987-1992 Administration Building stair tower, the 1970s angled brick wall in the original streetcar entry, two non-original pedestrian doors in the 14th Street elevation (northern door c. 1970, southern door c. 1987-1992), and the removal of non-original brick window infills. The elevations will be cleaned, repaired, and repointed where needed. The 14th Street NW elevation will be supported by temporary supports during excavation and construction of the new facility. The south portion of the elevation that will be retained will be catalogued, dismantled, and reassembled prior to restoration as its foundations are in conflict with the new bus drive aisle.

The elevation restoration includes the installation of new aluminum wrapped wood core IGU windows and exterior Administration Building doors to match the historic windows and doors as closely as is possible. Historic images, such as photographs and available plans, were used as source material for the design of new doors and windows. The historic symmetrical design of the doors will be retained for the new doors, in keeping with the historic character of the building. The two extant original wood windows on the 14th Street NW elevation will be restored and reinstalled in their existing locations. A historic round wood window currently located at the east elevation will be salvaged, restored, and installed in an opening in the 14th Street NW elevation where this same type of window was originally located, but the window was removed and bricked in at some point.

A survey completed in February of 2020 determined that overall, the brick masonry is in good condition. There are limited areas of step cracking, bio growth, staining, incompatible repointing, and previous alterations. All historic fabric will be cleaned in a manner consistent with the Secretary of the Interior's Guidelines for Rehabilitation: cleaning soiled masonry surfaces with the gentlest method possible. Non-original brick or mortar will be removed. Non-original and deteriorated mortar will be removed and replaced with an approved matching mortar as noted above. Non-original brick will be replaced with historic brick salvaged from the site and mortar analysis will be undertaken to determine an acceptable mortar for repairs. In order to retain as much historic masonry in situ as possible, small brick cracks or mechanical damage will be repaired rather than replaced. These repairs are ONLY for minor cracks and holes from anchors drilled in the face of the brick will be repaired with a patching mortar in compliance with the Secretary of the Interior's Guidelines for Rehabilitation.

The limestone and granite portions of the elevation are in a more distressed condition than the brick and will require more repair and, in select locations all noted on the drawings, replacement

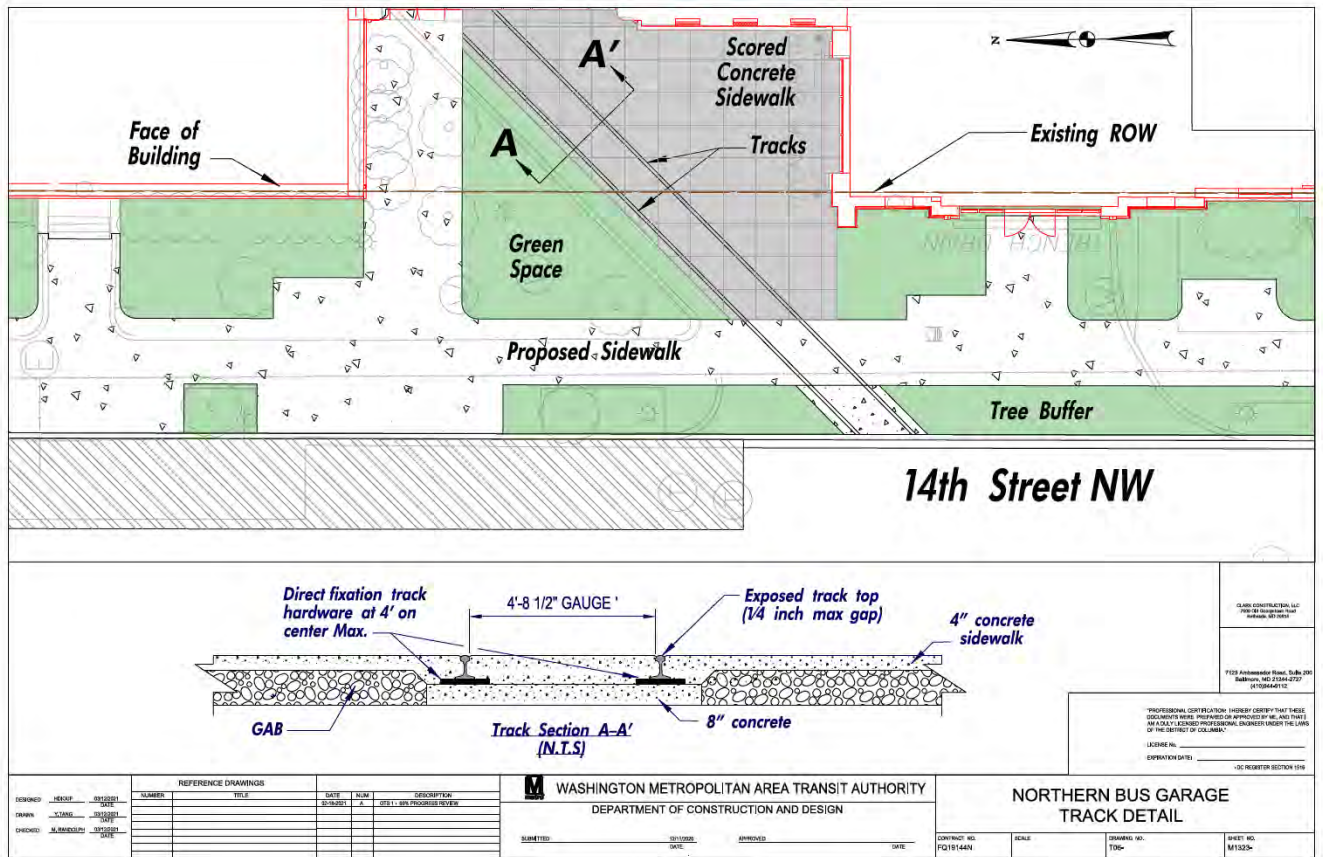
to match historic. Small areas of stone damage will be repaired with custom matched mortar repairs or dutchman. Only in a few limited instances will replacement to match historic be required. All limestone and granite will be cleaned in a manner consistent with the Secretary of the Interior's Guidelines for Rehabilitation: cleaning soiled masonry surfaces with the gentlest method possible. As detailed in contract documents, the non-historic parapet flashing currently installed in some locations on 14th Street will be removed to expose the historic limestone beneath. Small areas of stone damage will be repaired with custom matched mortar repairs or dutchman. Only in a few limited instances will replacement to match historic be required.

The pebble dash stucco at the cornice of the Administration Building and Tower will be cleaned in a manner consistent with the Secretary of the Interior's Guidelines for Rehabilitation: cleaning soiled masonry surfaces with the gentlest method possible. Repairs are identified in the contract documents where cracking and de-laminating has occurred. The painted wood trim in the cornice will be cleaned, repaired, and repainted.

The restoration will include the replacement of the non-original Administration Building and Tower slate and metal roofs with historically appropriate slate and metal roofing. The roofs and underlayment require full replacement based on poor condition. New gutters and downspouts to match the historic will be installed.

Restoration Elevations and Plans on following pages:

ATTACHMENT 5 **REPLICA STREETCAR TRACK INSTALLATION** **NORTHERN BUS GARAGE RENOVATION PROJECT** **MEMORANDUM OF AGREEMENT**



ATTACHMENT 6
INTERPRETIVE SIGNAGE EXHIBITS
NORTHERN BUS GARAGE RENOVATION PROJECT
MEMORANDUM OF AGREEMENT

To help mitigate the adverse effects associated with the renovation of the Northern Bus Garage, WMATA will develop and install interpretive signage exhibits as described below. This Scope of Work is organized into four sections: Background, Goals of the Exhibits, Tasks, and Deliverables.

Background:

WMATA plans to renovate the Northern Bus Garage, which is listed in the National Register of Historic Places (NRHP; NR# 13000290 listed April 5, 2013) and as a DC Historic Landmark (September 27, 2012) as the Capital Traction Company Decatur Street Car Barn. The renovation effort will remove portions of the historic fabric of the car barn, which will result in an adverse effect.

As part of mitigation efforts for the adverse effect, WMATA will be providing interpretive signage exhibits as explained below. Exterior signage shall focus on the historical and architectural characteristics (the building's history, architecture, and use) that qualify the building for listing in the NRHP. Interior exhibits will provide additional details about the Northern Bus Garage and related topics such as the role the garage played in the development of the surrounding neighborhood and community.

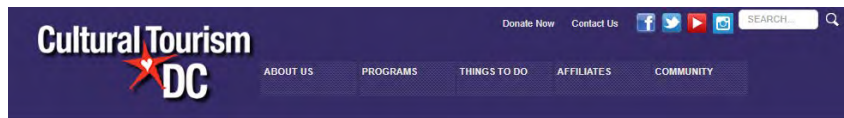
Goal of the Exhibits:

These interpretive signage exhibits will explain the historical and architectural characteristics that qualify the Northern Bus Garage for listing in the NRHP and connect the community and others to the significance of the Northern Bus Garage, especially the restored portions of the 1906 building along 14th Street, NW, by explaining the role the facility played in the development of transportation in Washington, D.C. and the surrounding neighborhood. Broader topics related to commercial development, social history, African American history, and other themes associated with the facility and the community will also be addressed in the community room exhibits to provide relevant information from a wider variety of perspectives. All exhibits will be designed to be compatible with their historic setting, both exterior and interior, and will not cause any damage to historic fabric.

Specific Tasks:

One to three exterior interpretive signage exhibits will be developed to explain the historical and architectural significance of the Northern Bus Garage. Text will be based upon the NRHP nomination for the Capital Traction Company Car Barn, the NRHP Multiple Property Documentation for Streetcar and Bus Resources of Washington, DC 1862-1962, and related research. One exhibit will be used to explain the replica streetcar tracks that will be installed in front of the Northern Bus Garage along 14th Street, NW. Proposed signage locations will be

identified through consultation with the DC SHPO. The primary location of exterior exhibits will be adjacent to the restored portions of the building on 14th Street, NW, but additional exhibits may also be installed adjacent to and/or on newly constructed portions of the Northern Bus Garage to provide additional interpretive opportunities and to enliven and break down the scale of the large new building. The appearance of the exterior exhibits, especially those along 14th Street, NW and within or adjacent to public space, will be based upon existing interpretive signage exhibits within the District of Columbia (e.g. the Neighborhood Heritage Trails installed by Cultural Tourism DC and/or the Kalorama Citizens Association signage – see examples below) to provide consistency throughout the city and make it easier for users to recognize the as interpretive signage exhibits. Any interpretive signage exhibits that may be attached to the newly constructed portions of the Northern Bus Garage may be designed with greater flexibility.



OTHER

▶ OTHER ▶ Neighborhood Heritage Trails

Passport DC Draft

Neighborhood Heritage Trails

Old Pages



A visitor reads a sign at the Downtown Heritage Trail. The Cultural Tourism DC Heritage Trails connect cosmopolitan DC with local neighborhood culture and history.



QTY: 1 (24"x42") EXTERIOR GRAPHIC FOR PEDESTAL

SCALE: 3/4"=1'-0"

MATERIAL: EXTERIOR GRADE CHPL GRAPHIC FOR
SURFACE MOUNT ON PEDESTAL



Up to five interior interpretive signage exhibits will be installed in the 1600 sq. ft. community room which, for reference, has a finished wall height of 13 ft. 8 in. The interior exhibits shall focus on broader historical themes that relate to the development of the Northern Bus Garage and the surrounding neighborhood and community, including African-American History and related topics. The content will be determined in consultation with the DC SHPO and the consulting parties; the final number of exhibits will be determined in consultation with FTA and DC SHPO. The appearance of the interior signs should relate to that of the exterior signage exhibits, but more flexibility can be applied to the design of the interior exhibits provided they do not damage any historic interior fabric. For example, three-dimensional artifacts, audio/visual samples, personal memorabilia, and other creative methods of interpretation may be considered for incorporation into the designs.

Deliverables:

1. In accordance the Section 106 Memorandum of Agreement (MOA) the contractor hired by WMATA will solicit initial input from DC SHPO and the consulting parties regarding the topics they would like to have included in the interpretive signage exhibits. As appropriate to fully develop the topics, the contractor will conduct additional outreach to individuals or groups that are knowledgeable about community history.
2. Based upon the feedback provided in Deliverable 1 above, the contractor will research historical themes using primary and secondary sources. The contractor will conduct a minimum of three oral history interviews with relevant community members and people historically associated with the Northern Bus Garage facility. Oral histories shall be transcribed, and transcriptions shall be provided to consulting parties upon request.
3. The contractor will develop draft text and graphics for interpretive signage exhibits, along with recommendations for the locations, size, and related details in keeping with the existing interpretive signage examples cited above.
4. Full color drafts of all interpretive signage exhibits will be provided in digital format to the consulting parties and DC SHPO for review and comment.
5. The contractor shall submit digital versions of the full color drafts and all consulting party comments to the DC SHPO for final review. The contractor will consult further with the DC SHPO to finalize all aspects of the interpretive signage exhibits including but not limited to text, images, location, size and design. Once approved by DC SHPO in writing, the contractor shall prepare final plans and a cost estimate for fabrication and installation of all interpretive signage exhibits.
6. WMATA shall fabricate and install all the interpretive signage exhibits within 30 days of issuance of the building occupancy permit, in accordance with the Section 106 MOA.

APPENDIX 8: SECTION 106 MEMORANDUM OF AGREEMENT

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**MEMORANDUM OF AGREEMENT
AMONG
THE FEDERAL TRANSIT ADMINISTRATION,
THE DISTRICT OF COLUMBIA STATE HISTORIC PRESERVATION OFFICER
AND
THE WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY
REGARDING
THE NORTHERN BUS GARAGE RENOVATION PROJECT IN
WASHINGTON, DC**

WHEREAS, the Federal Transit Administration (FTA) plans to provide financial assistance to the Washington Metropolitan Area Transit Authority (WMATA) for the proposed renovation of the Northern Bus Garage, historically known as the Capital Traction Company Car Barn, which is listed on the National Register of Historic Places (NRHP; NR# 13000290, May 22, 2013) (Undertaking) and located at 4701 14th Street, NW; and

WHEREAS, the Northern Bus Garage Renovation Project (Project) consists of the stabilization, restoration, and preservation of the portions of the Northern Bus Garage along 14th Street, NW, including the administration offices and tower, and historic walls on the north and south ends of the building; the demolition of the remaining portions of the historic building and later, non-historic additions; and replacement of the demolished portions with a new building that will be connected to the preserved historic building; and

WHEREAS, FTA has consulted with the District of Columbia State Historic Preservation Officer (DC SHPO) regarding the Undertaking in accordance with 36 CFR Part 800, the regulations implementing Section 106 of the National Historic Preservation Act (54 U.S.C. § 306108); and

WHEREAS, FTA in consultation with the DC SHPO has determined the Undertaking's Area of Potential Effects (APE), as defined in 36 CFR § 800.16(d), as including the entirety of the Northern Bus Garage footprint, and approximately one block of residential or commercial structures along (clockwise starting north) Decatur Street NW, Iowa Avenue NW, Arkansas Avenue NW, Buchanan Street NW, and 14th Street NW, and viewsheds from the intersections of Crittenden Street NW and 15th Street NW facing east, Decatur Street NW, and 15th Street NW facing east, as depicted in Attachment 1; and

WHEREAS, FTA and DC SHPO have applied the criteria of adverse effect pursuant to 36 CFR § 800.5 and determined that the Undertaking will have an adverse effect on the Northern Bus Garage because it will result in the destruction of part of the historic building; and

WHEREAS, WMATA, as a recipient of Federal assistance for the Project, is a consulting party in the Section 106 process pursuant to 36 CFR § 800.2(c)(4) with a responsibility for implementing the terms of this Memorandum of Agreement (MOA) and is invited to sign this MOA as an invited signatory pursuant to 36 CFR § 800.6(c)(2); and

WHEREAS, FTA and DC SHPO invited Uptown Main Street, the Sixteenth Street Neighborhood Association, the Northern Busbarn Neighbors, DC Advisory Neighborhood Commission (ANC) 4C02 and ANC 4C03 to be consulting parties pursuant to 36 CFR § 800.2(c)(5), and consulted with them regarding the effects of the Undertaking on historic properties; and

WHEREAS, in accordance with 36 CFR § 800.6(a)(1), FTA has notified the Advisory Council on Historic Preservation (ACHP) of its adverse effect determination with specified documentation, and the ACHP declined to participate in the consultation pursuant to 36 CFR § 800.6(a)(1)(iii);

NOW, THEREFORE, FTA, the DC SHPO, and WMATA (henceforth referred to as the Signatories) agree that the Undertaking shall be implemented in accordance with the following stipulations in order to take into account the effects of the Undertaking on historic properties.

STIPULATIONS

FTA and WMATA shall ensure that the following measures are implemented.

I. IMPLEMENTATION OF DESIGN PLANS

WMATA will construct the Project according to the design plans included in Attachments 2, 3, and 4. These design plans were determined to be the preferred design through robust Section 106 consultation and public outreach to ensure the following items are met:

- A. New construction illustrated in Attachment 2 will be compatible with the historic Northern Bus Garage; will incorporate projecting and receding elements to decrease the monolithic nature of the new structure along Arkansas and Iowa avenues; and use cladding material and visual patterning to further “break down the scale” of the new building, especially near building entrances and garage doors.
- B. Restoration work will be informed by the *Identification of Historic Fabric Report* included in Attachment 3 and implemented in accordance with the plans and narrative scope of work included in Attachment 4 to ensure that historic fabric from the 1906 to 1959 NRHP Period of Significance will be preserved and the historic portions of the Northern Bus Garage will remain prominent features of the overall Northern Bus Complex. Restoration work includes, but is not limited to, preserving and repairing existing historic fabric, restoring elevation elements that have been replaced with inappropriate elements, replacing inappropriate 1980s windows with historically appropriate replacement windows, and preserving and restoring historic sections of the north and south walls and the original smokestack. As part of its on-going review for DC building permits, the DC SHPO may require minor revisions to the plans in Attachment 4.

II. INSTALLATION OF REPLICA STREETCAR TRACKS

To illustrate and highlight the Northern Bus Garage's original function as a streetcar car barn, WMATA shall install replica streetcar tracks in the area where streetcars used to enter and/or exit from the building along 14th Street, NW, as shown in Attachment 5. If the District Department of Transportation's (DDOT) Public Space Committee does not approve streetcar tracks extending through public space to 14th Street, NW, WMATA will provide information to document the Public Space Committee's decision, and may revise the plans in Attachment 5 to limit the streetcar tracks to WMATA-owned property. Regardless of their extent, the tracks shall be ADA compliant and avoid tripping hazards. The replica streetcar tracks will be installed as part of building construction project and will be fully installed within one week of issuance of the building occupancy permit.

III. INTERPRETIVE SIGNAGE EXHIBITS

- A. In consultation with the DC SHPO and consulting parties, WMATA shall develop and install one (1) to three (3) exterior interpretive signage exhibits and up to five (5) interior interpretive signage exhibits for the building's community room as described in Attachment 6. The exterior interpretive signage exhibits shall focus on the historical and architectural characteristics that qualify the Northern Bus Garage for listing in the NRHP and explain the replica streetcar tracks described in Stipulation II above. The interior community room exhibits may focus on broader historical themes that relate to the role the Northern Bus Garage played in the development of the surrounding neighborhood and community, including, but not limited to, topics such as African-American history, commercial development, and social history.
- B. In developing topics and materials for the interior interpretive signage exhibits, WMATA shall solicit initial input from consulting parties and DC SHPO. WMATA will reach out to additional groups or individuals who are knowledgeable about community history as appropriate in developing the content for the exhibits, as described in Attachment 6.
- C. WMATA, in consultation with DC SHPO and FTA, will determine which topics will be pursued further, based on input received through outreach described in Stipulation III.B. and Attachment 6, and decide how many exhibits will ultimately be installed.
- D. WMATA shall provide full color digital drafts of all exterior interpretive signage exhibits and interior interpretive signage exhibits to the consulting parties and DC SHPO for review and comment in accordance with Attachment 6.
- E. Once the content, design, and location are approved by DC SHPO in writing, WMATA shall prepare and install the signage in the approved locations within thirty days of issuance of the building occupancy permit.

IV. REVISIONS TO THE PROJECT

If WMATA refines the design of the Project in a manner that may result in additional or new effects on historic properties, WMATA will notify FTA and the DC SHPO of such changes. Before WMATA takes any Project action that may result in additional or new effects on historic properties, WMATA, FTA, and DC SHPO will consult to determine the appropriate course of action.

V. UNANTICIPATED DISCOVERIES

A. Archaeological Resources and Human Remains

1. In the event that a previously unidentified archaeological resource and/or suspected human remains are discovered during ground disturbance activities, all construction work involving subsurface disturbance will be halted in the area of the resource and in the surrounding area where further subsurface remains can reasonably be expected to occur.
2. WMATA shall notify the DC SHPO's District Archaeologist in writing via email and by telephone immediately.
3. The DC SHPO's District Archaeologist shall conduct a site visit within two working days (48 hours), if possible.
4. DC SHPO will contact the Metropolitan Police Department (MPD) and the DC Office of the Chief Medical Examiner (OCME) if suspected human remains are present per OCME protocols under DC Statute DC ST S 5-1406.
5. WMATA, FTA, and DC SHPO will consult to determine whether the resource is eligible for listing in the NRHP, and if so, whether adverse effects can be avoided or minimized.
6. If the resource is determined NRHP-eligible and adverse effects cannot be avoided, WMATA will propose a Treatment Plan to mitigate adverse effects. Upon concurrence by DC SHPO and FTA on the effects and Treatment Plan, WMATA will carry out the Treatment Plan.
7. Documentation, evaluation, and execution of the Treatment Plan will be undertaken by archaeology professionals meeting the requirements of Stipulation VI, comply with District guidelines for archaeology, and be conducted according to an archaeological work plan approved by the DC SHPO.

B. Architectural and Historic Built Environment Resources

1. If, in the course of implementing the Project, unforeseen and potentially adverse effects occur to above-ground historic properties within the APE, WMATA shall immediately

halt all construction work within fifty (50) feet of the unforeseen effect and take all reasonable measures to avoid or minimize further unforeseen effects. WMATA shall notify FTA and DC SHPO of the issue as soon as practicable, but no later than 3 days following the unforeseen effect.

2. WMATA shall ensure that an architectural historian or historic architect meeting the requirements of Stipulation VI investigates the work site and the historic property within seven (7) days. Following the investigation, WMATA shall forward to FTA and DC SHPO an Assessment of Effects Report to the historic property and proposed Treatment Plan to resolve any adverse effects on historic properties. Upon agreement with the Effects Report and Treatment Plan by DC SHPO and FTA, WMATA will carry out the Treatment Plan.
3. At the conclusion of this consultation, WMATA will provide all parties that participated in the discovery consultation a written summary of the consultation and its resolution. This summary may be transmitted to the participants via e-mail.

VI. PROFESSIONAL QUALIFICATIONS

WMATA shall ensure that all historic preservation and archaeological work performed by WMATA or on its behalf pursuant to this MOA shall be accomplished by or under the direct supervision of a person or persons who meet(s) or exceed(s) the pertinent qualifications in the Secretary of the Interior's Professional Qualification Standards (48 FR 44738-9) in those areas in which the qualifications are applicable for the specific work performed.

VII. MONITORING AND REPORTING

Each year following the execution of this MOA until it expires, is fulfilled, or is terminated, WMATA shall provide the signatories a summary report detailing work undertaken pursuant to the MOA. Such report shall include a summary and update on work being carried out in accordance with relevant stipulations, any scheduling changes proposed, any problems encountered, any disputes or objections received, and related topics. WMATA shall provide the annual report to the Signatories on or before the date of execution of the MOA.

VIII. DISPUTE RESOLUTION

Should any Signatory object at any time to any actions proposed or the manner in which the terms of this MOA are implemented, FTA shall notify the other Signatories and consult with such party to resolve the objection. If FTA determines that such objection cannot be resolved, FTA will:

- A. Forward all documentation relevant to the dispute, including FTA's proposed resolution, to the ACHP. The ACHP shall provide FTA with its advice on the resolution of the objection within thirty (30) calendar days of receiving adequate documentation. Prior to reaching a final decision on the dispute, FTA shall prepare a written response that takes into account any timely advice or comments regarding the dispute from the ACHP and

signatories and provide them with a copy of this written response. FTA will then proceed accordingly.

- B. If the ACHP does not provide its advice regarding the dispute within the 30-day time period, FTA may make a final decision on the dispute and proceed accordingly. Prior to reaching such a decision, FTA shall prepare a written response that takes into account any timely comments regarding the dispute from the Signatories and provide the Signatories and the ACHP with a copy of such written response.
- C. FTA and WMATA's responsibility to carry out all other actions subject to the terms of this MOA that are not the subject of the dispute remains unchanged.

IX. AMENDMENTS

This MOA may be amended when such an amendment is agreed to in writing by all Signatories. The amendment will be effective on the date a copy signed by all Signatories parties is filed with the ACHP. Revisions to any Appendix to this MOA determined to be non-substantive by the Signatories will not require an amendment to the MOA but must be agreed to in writing by the Signatories.

X. TERMINATION

If any Signatory determines that the terms of this MOA will not or cannot be carried out, that party shall immediately consult with the other Signatories to attempt to develop an amendment per Stipulation IX, above. If within 30 days, or another timeframe agreed to by all Signatories, agreement on an amendment cannot be reached, any Signatory may terminate the MOA upon written notification to other Signatories.

If the MOA is terminated, and prior to work continuing on the Undertaking, FTA must either: (a) execute another MOA pursuant to 36 CFR § 800.6; or (b) request, take into account, and respond to the comments of the ACHP pursuant to 36 CFR § 800.7. FTA shall notify the signatories as to the course of action it will pursue.

XI. GENERAL PROVISIONS

- A. Counterparts; Electronic Signature
This MOA may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. This MOA may be signed electronically.
- B. Distribution of MOA
Within one (1) week of the last signature on this MOA, FTA shall provide each Signatory and consulting party with one high quality, legible, full color, electronic copy of the fully-executed MOA and all of its attachments integrated into a single document. Internet links will not be used as a means to provide copies of attachments since links to web-based

information often change. If the electronic copy is too large to send by e-mail, WMATA shall provide a copy of this MOA as described above, on a flash drive, compact disc, or other suitable, electronic means.

XII. DURATION

This MOA will expire if its terms are not carried out within ten (10) years from the date of execution, or when FTA determines that all stipulations have been satisfactorily fulfilled. WMATA shall notify FTA when the project is completed and there are no further opportunities for unanticipated discoveries as described in Stipulation V above. Prior to expiration, FTA may consult with the Signatories to reconsider the terms of the MOA and amend it in accordance with Stipulation IX.

Execution of this MOA and implementation of its terms evidences that FTA has taken into account the effects of the Undertaking on historic properties and afforded the ACHP an opportunity to comment.

**SIGNATURE PAGE
MEMORANDUM OF AGREEMENT
REGARDING
THE NORTHERN BUS GARAGE RENOVATION PROJECT
WASHINGTON, DC**

SIGNATORY

FEDERAL TRANSIT ADMINISTRATION

By: _____

Date: _____

Terry Garcia-Crews
Regional Administrator, Region III

**SIGNATURE PAGE
MEMORANDUM OF AGREEMENT
REGARDING
THE NORTHERN BUS GARAGE RENOVATION PROJECT
WASHINGTON, DC**

SIGNATORY

DISTRICT OF COLUMBIA STATE HISTORIC PRESERVATION OFFICER

By: 

Date: 12/15/2021

David Maloney
District of Columbia State Historic Preservation Officer

**SIGNATURE PAGE
MEMORANDUM OF AGREEMENT
REGARDING
THE NORTHERN BUS GARAGE RENOVATION PROJECT
WASHINGTON, DC**

INVITED SIGNATORY

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

By: Andrew Off
E013349 WMATA

Digitally signed by Andrew
Off E013349 WMATA
Date: 2021.12.10 09:57:04
-05'00'

Date: _____

Andrew B. Off
Executive Vice President, Capital Project Delivery

LIST OF ATTACHMENTS

Attachment 1: Area of Potential Effects

Attachment 2: Building Elevations and Perspective Views

Attachment 3: WMATA Northern Bus Garage: Identification of Historic Fabric Report

Attachment 4: Restoration Narrative Scope of Work, Elevations and Plans

Attachment 5: Plans for Replica Streetcar Track Installation

Attachment 6: Interpretive Signage Exhibits

ATTACHMENT 1
AREA OF POTENTIAL EFFECTS
NORTHERN BUS GARAGE RENOVATION PROJECT
MEMORANDUM OF AGREEMENT



Area of Potential Effects —————

ATTACHMENT 2
BUILDING ELEVATIONS AND PERSPECTIVE VIEWS
NORTHERN BUS GARAGE RENOVATION PROJECT
MEMORANDUM OF AGREEMENT

Northern Bus Garage

Proposed Perspective Views



SOUTHWEST VIEW LOOKING NORTHEAST ALONG 14TH STREET

Northern Bus Garage Proposed Perspective Views

VIEW LOOKING SOUTHEAST ALONG 14TH STREET AT ENTRY



Northern Bus Garage

Proposed Perspective Views



VIEW LOOKING SOUTHEAST ALONG 14TH STREET

Northern Bus Garage

Proposed Perspective Views



VIEW LOOKING NORTHWEST ALONG IOWA

Northern Bus Garage

Proposed Perspective Views



VIEW LOOKING SOUTHWEST ALONG ARKANSAS

Northern Bus Garage

Proposed Perspective Views



VIEW LOOKING WEST ALONG BUCHANAN AT SOUTHEAST CORNER

ATTACHMENT 3
IDENTIFICATION OF HISTORIC FABRIC REPORT
NORTHERN BUS GARAGE RENOVATION PROJECT
MEMORANDUM OF AGREEMENT



1914 Photograph of the Northern Bus Garage looking southeast (DC History Center)

WMATA NORTHERN BUS GARAGE: IDENTIFICATION OF HISTORIC FABRIC REPORT

Informing the Treatment of the Existing Structure and
Design of the Replacement Bus Garage

February 2020

**BEYER
BLINDER
BELLE**

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Introduction

The Northern Bus Garage is listed in the National Register of Historic Places (NRHP) (listed in 2013) and the D.C. Inventory of Historic Sites (listed in 2012). The building, located at 4615 14th Street NW and formerly known as the Capital Traction Company Car Barn or the Decatur Streetcar Barn, was originally constructed by the Capital Traction Company in 1906. Fully converted from a streetcar barn to a bus garage in 1959 and transferred to WMATA in 1966, the structure is a vital storage and maintenance facility for WMATA's bus transportation services. The original building, designed in the Italian Renaissance Revival style, is a one-story brick masonry building with partial basement level, the length of which spans two city blocks. The building appears to be two complementary masses; one being a two-story structure used as administrative offices and the other housing the repair shops and garage, which features a three-story tower. The building was significantly altered during renovation work completed in 1987-1992. During this time, the southern and eastern elevations of the building were enveloped in a one-story addition with rooftop parking. Decatur Street, to the north, was enclosed and substantial demolition to the roof, interior columns, and basement floor slab also occurred. Additionally, there were many alterations to the administrative offices and the original building elevations.

Current operational and programmatic challenges require that the bus garage be rebuilt while preserving the historic 14th Street façade of the building. It is important that the Northern Bus Garage Replacement Project (the project) meet WMATA's goals of modernization, sustainability, increased community integration, and flexibility for the future needs of electric buses while preserving the historic fabric that retains integrity and expresses the significance of the building.

FTA-funded projects undertaken by WMATA are subject to Section 106 of the National Historic Preservation Act (NHPA), requiring Federal agencies take into account the effects of their undertakings on historic properties and, if the project is determined to have an adverse effect, afford the Advisory Council on Historic Preservation (ACHP) the opportunity to comment on such undertakings. The Section 106 process was initiated in April 2019, and the undertaking was determined to have an adverse effect by FTA and the DC State Historic Preservation Office, although the ACHP declined to participate in the consultation. The project also requires DC Historic Preservation Review Board (HPRB) review and approval. Through the Section 106 process, the FTA has determined that mitigation will be recorded in a Memorandum of Agreement.

History and Significance of the Building

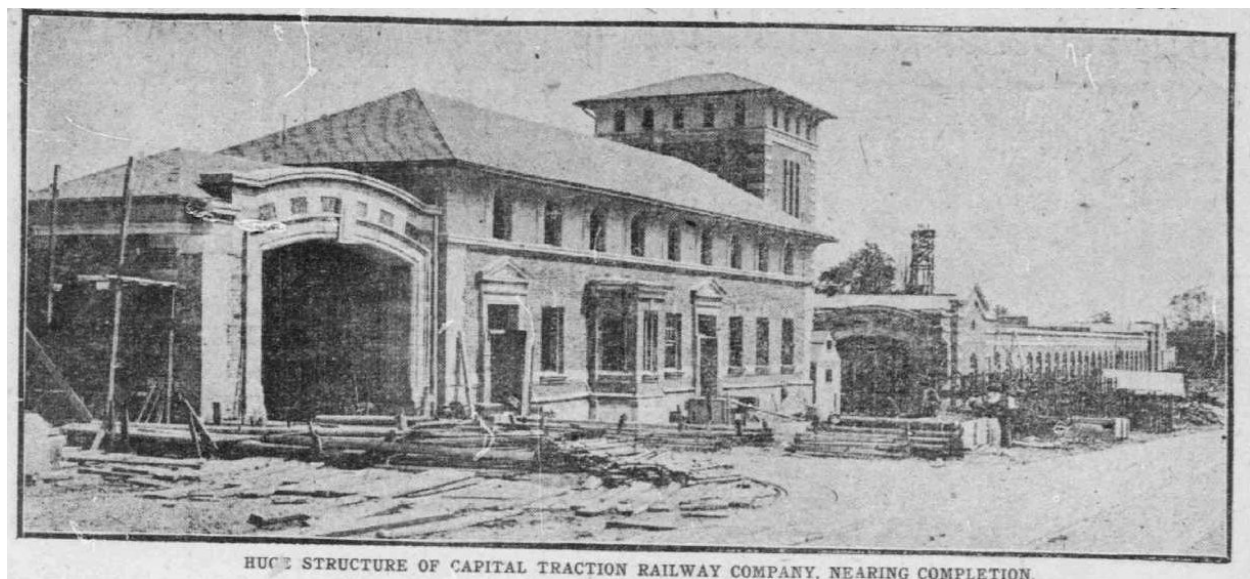
The bus garage was constructed in 1906 to serve as a streetcar storage and maintenance facility and house administrative offices for the Capital Traction Company. (See **Figure 1**) The building was designed by architecture firm Wood, Donn and Deming and was built by construction firm Richardson and Burgess, opening in 1907. In 1926, the basement portion of the building was leased to the Washington Rapid Transit Company for bus maintenance and storage. Between 1956 and 1962, all D.C. streetcar lines were eliminated or converted to bus routes. In 1959, the building was converted to a bus garage, and ownership was transferred to WMATA in 1966.¹

¹ National Register of Historic Places, Capital Traction Company Car Barn, Washington, D.C., National Register #13000290

The Northern Bus Garage building was listed in the D.C. Inventory of Historic Sites in 2012, and in the NRHP in 2013 under Criteria A and C for its architectural and historic significance.² It is considered an outstanding example of Italian Renaissance Revival design for its building type and is directly associated with the streetcar system, a public transportation system that helped develop and determine development patterns of the District of Columbia.³ The building is also eligible for designation under the multiple-property document Streetcar and Bus Resources of Washington, D.C. 1862-1962. According to the multiple property documentation form, to remain eligible under Criterion C, the building must retain its high-style architectural design as well as its original form or shed-like appearance and the streetcar entry openings.⁴

The building's period of significance is from 1906-1959, spanning the period when it served as a streetcar barn.⁵ The period of significance ends when it was converted to a bus garage. Since 1959, many significant alterations have been made to the building.

Figure 1. 1906 photograph of the car barn and administrative offices during construction (Washington Times)



² Under NRHP Criterion A, properties are eligible for listing if they are associated with events that have made a significant contribution to the broad patterns of our history. Under NRHP Criterion C, properties are eligible for listing if they embody the distinctive characteristics of a type, period, or method of construction, or represent the work of a master, possesses high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction. Under the criteria for the DC Inventory, the property is eligible for designation based on the following values: history and architecture and urbanism.

³ National Register of Historic Places, Capital Traction Company Car Barn, Washington, D.C., National Register #13000290

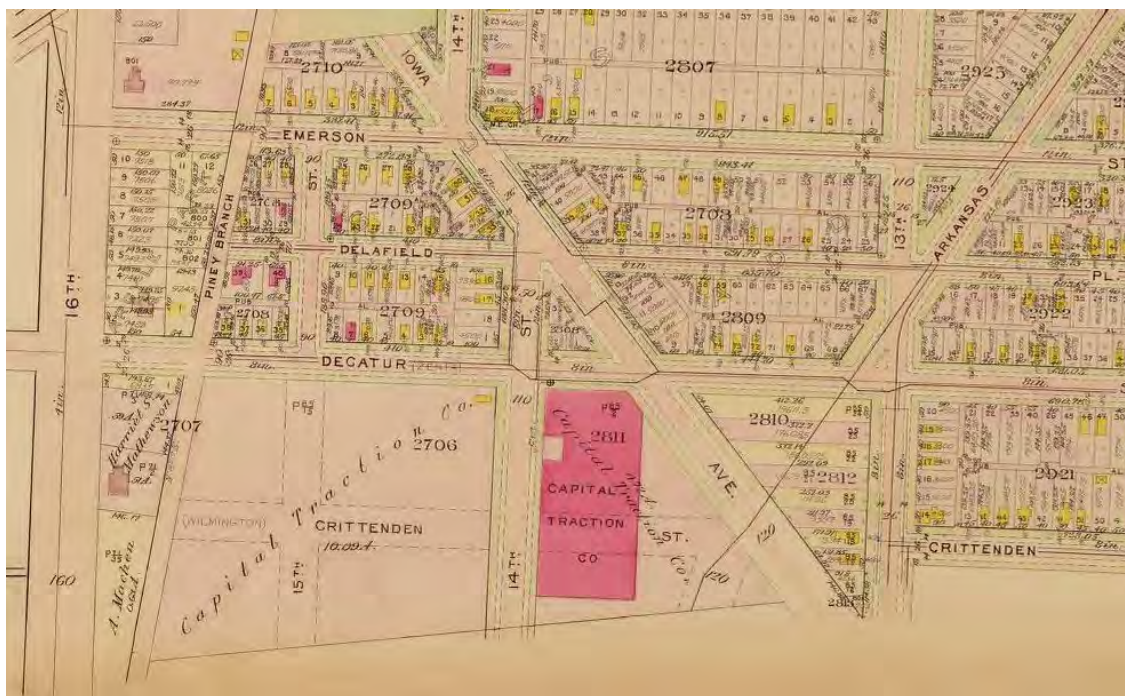
⁴ National Register of Historic Places, Streetcar and Bus Resources of Washington, D.C. Multiple Property Listing, Washington, D.C., #64500948

⁵ National Register of Historic Places, Capital Traction Company Car Barn, Washington, D.C., National Register #13000290

Physical Description and Chronology of Development

The Northern Bus Garage site is bounded by 14th Street to the west, Decatur Street to the north, Iowa Ave to the northeast, Arkansas Ave to the southeast, and Buchanan Street to the south. The main façade of the building faces 14th Street, and therefore, the west façade is the most decorative. As originally constructed, the brick masonry car barn measured 537 feet (north-south) by 208 feet (east-west), occupying nearly half of the site on Square 2811 and a portion of Square 2815. As platted, the two squares were intended to be divided by Crittenden Street. However, because of the construction of the car barn, the road was never laid, and the squares remained joined. The 1911 Baist Real Estate Map shows the original footprint and surrounding streets of the garage. It is interesting to note the residential character of the neighborhoods to the north of the garage and that the Capital Traction Company owned the squares west of 14th Street, yet the area was not developed at the time. (See **Figure 2**)

Figure 2. 1911 Baist Real Estate Map; Decatur Streetcar Barn is the pink building labeled as the Capital Traction Co. (Library of Congress)



The building was designed to look like two complementary masses: a two-story structure housing the administrative offices, featuring a hipped roof with overhanging eaves, and a two-story car barn and repair shop, characterized by a grand three-story tower with a clerestory. As designed and constructed, the garage consisted of an upper (main level) entered along 14th Street and a partially excavated lower (basement) level, accessed from the south elevation of the building. Exterior character-defining features included brick walls accented with stone belt courses, quoining, and keystones; shallow-pitched hipped roofs of the tower and administrative offices, and bracketed eaves. (See **Figure 3**) The garage and repair shop featured a flat roof with a front gable parapet and several large skylights. The building originally

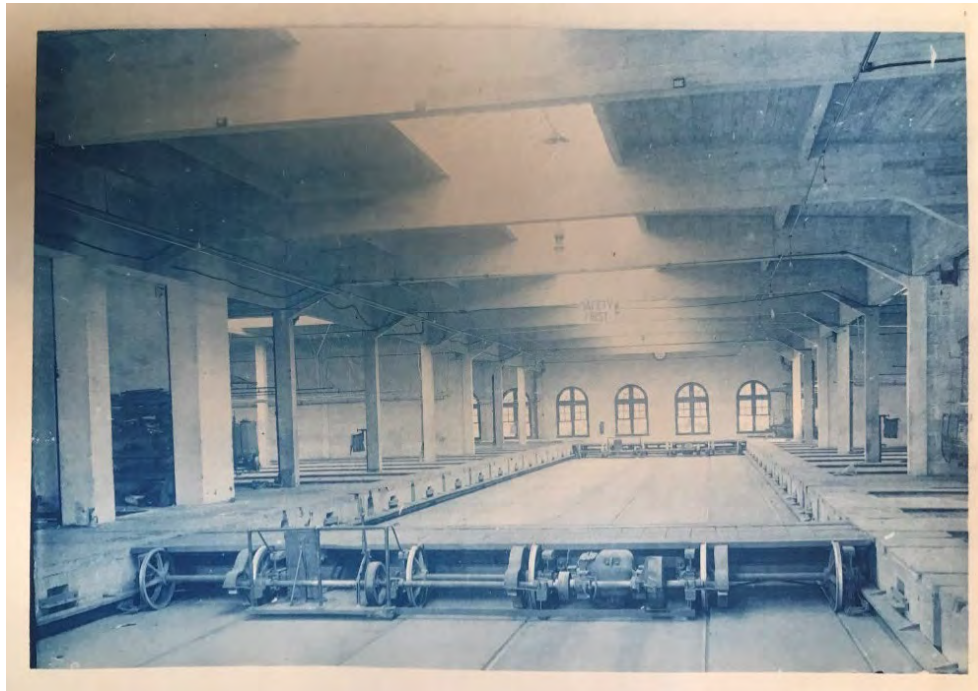
featured three streetcar entrances and exits on the west façade: two facing west and framing the administrative offices and one facing north, immediately adjacent to the tower. Arched window openings on all elevations provided light to the garage and repair shop. The administrative offices, tower, and several projecting pavilions along the north and west elevations featured rectangular windows.

The interior of the car barn is formed by the concrete columns and roof structure. Skylights and the arched window openings provided plentiful daylight. The upper level featured two transfer tables, allowing for the efficient mobility and storage of the street cars. The transfer tables ran parallel to each other from the front (west) to rear (east) elevations of the building. (See **Figure 4**)

Figure 3. 1914 exterior photograph of the northwest corner of the streetcar barn showing the administrative offices, tower, and two of the three original streetcar openings. The north elevation features arched window openings and hipped roof pavilions at the center and western corner of the elevation (DC History Center)



Figure 4. 1914 interior photograph of the Decatur Streetcar Barn showing the transfer table in the foreground and the skylight above (DC History Center)



In 1926, the Washington Rapid Transit Company, established in 1921, leased the lower level of the garage from the Capital Traction Company to use for buses. According to the NRHP nomination, a one-story addition was added to the east elevation of the building at this time to provide storage facilities for the buses. The addition is visible in the 1959 Sanborn map and a 1974 aerial photograph of the bus garage. (See **Figure 5** and **Figure 6**) It is possible that the 1926 addition was expanded after 1959, as it appears slightly larger in the 1974 photograph.

Presumably, many interior alterations were made circa 1959 when the streetcar barn was fully converted to a bus garage, however, the streetcar openings along the west façade continued to be used as bus entries and exits to the garage and repair shops. It is likely that the transfer tables and bays for the streetcars were infilled. Boring samples completed in December 2019 have revealed that partial track infrastructure is extant, although encapsulated in concrete infill. Currently, no documentation has been found that illustrates the interior changes that occurred during this time. Exterior photographs indicate that an additional bus opening was added on the west façade between 1949-1962, immediately adjacent to the north facing opening to the south of the tower. The opening was cut within the pedimented projection, requiring the removal of an arched window opening. A molded cast stone surround, complementing the surrounds of the original openings, was installed. Photographs from 1974 also indicate that an arched window opening at the southern end of the west façade, to the right (south) of the pedimented parapet, was changed to a doorway.

Figure 5. 1959 Sanborn map showing the garage (then owned by the Capital Transit Company) and the 1926 addition at the east side (Capital Traction Company Car Barn National Register Nomination Form)

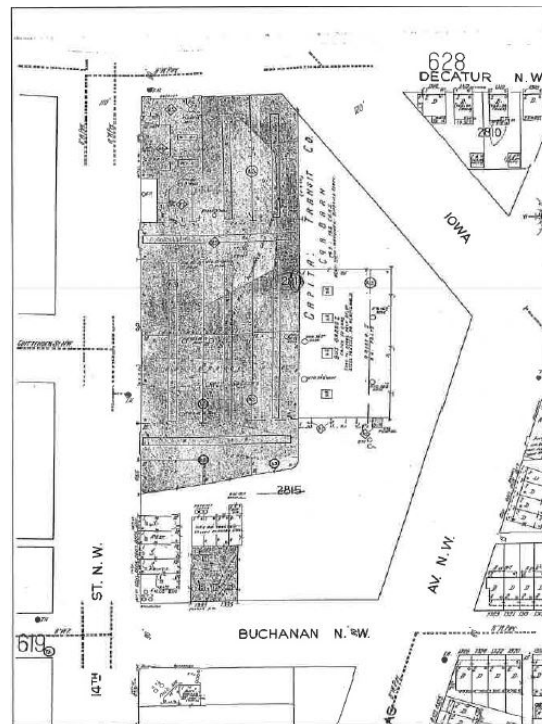


Figure 6. 1974 photograph of the bus garage looking northwest; the 1926 addition is visible on the right (WMATA Archive, George Washington University Special Collections)



The date of the construction of the smokestack at the south elevation of the garage is unknown, but photographs indicate it was constructed after 1914 and before 1962, likely dating to the period of significance. It was constructed to exhaust smoke from the coal-powered boiler room located in the lower level, as discerned from 1978 renovation drawings. (See **Figure 7**) In the 1980s, it was altered with new openings to accommodate updated mechanical equipment.

Another instance of unknown alteration occurred to the north of the tower. 1914 blueprints show that the north elevation of the tower adjacent to the streetcar opening was originally exposed, however, 1978 existing condition drawings show that an angled wall had been built at the streetcar opening, closing off the north elevation of the tower. Today, the wall is still extant, and a doorway has been inserted. (See **Figure 8**)

Figure 7. 1978 Renovation drawing; red arrow shows the smokestack adjacent to the boiler room and coal storage (WMATA)

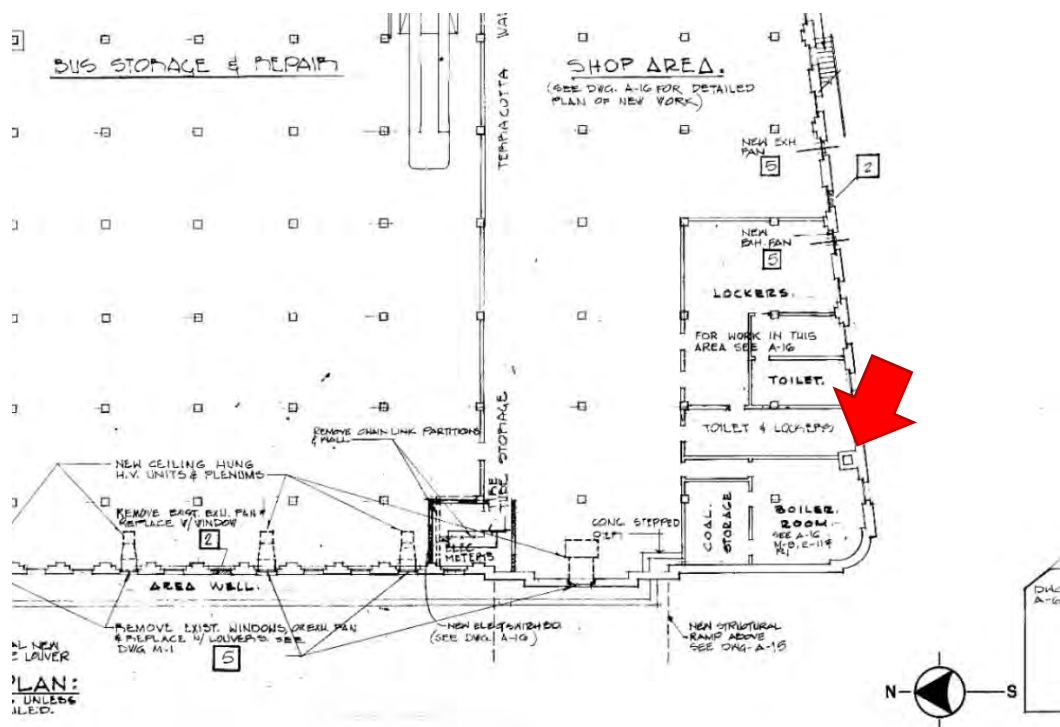


Figure 8. Angled brick wall on right constructed sometime after 1914 and prior to 1978. The wall created an additional interior room and enclosed the north elevation of the tower at that level. The other angled wall with the overhanging door was added after 1978 (BBB)



Numerous significant alterations to the property occurred in the 1980s. To reduce noise effects from bus operations to the surrounding neighborhoods, a thirteen-foot high red brick wall was erected in 1982-1983 around the WMATA property, encircling nearly all of Squares 2811 and 2815, except for the southwest corner at Buchanan and 14th Streets.

From 1987 to 1992, the bus garage underwent a phased renovation and addition. The 1926 bus garage addition to the east of the original structure was demolished, and a one-story maintenance facility and garage with rooftop parking was constructed within the 1983 property wall, wrapping the east, south, and north elevations of the building. (See **Figure 9**) The majority of the original roof was demolished and rebuilt except for roofing over several bays at the northern end and a bay that remained along the full perimeter of the building. (See **Figure 10** and **Figure 11**) All but two of the original wood windows were replaced with aluminum windows, and several window openings were enclosed or changed to bus openings. A bus entry was inserted at the southern end of the west façade, immediately left (north) of the pedimented parapet at that end. (See **Figure 12**) To the right (south) of the pediment, an additional window was changed to a doorway. (See **Figure 13**)

The north and majority of the east elevations of the building were enclosed by the addition and bus ramp. The ramp descends west to east and north to south, following the topography of the site. As a result, Decatur Street, between 14th Street and Iowa Ave. was closed to traffic and was incorporated into the bus garage. A truncated roof encloses the original north elevation of garage. The original north elevation, which featured arched window openings was significantly altered with new bus openings, allowing buses to easily move from the garage to the bus ramp and exit at Decatur and 14th Streets. (See **Figure 14**) The east elevation was enveloped by the addition. The original arched window openings are

still present, although many of the fanlights have been infilled with brick or replaced with louvers. The original east wall remains visible at the upper level interior and from the roof of the 1987 addition. (See **Figure 15**) The addition also had significant effects to the south elevation of the original structure. The lower level of the south elevation was fully enclosed and many of the windows at the upper level were removed and filled with glass block.

Figure 9. Contemporary aerial image of the bus garage looking southeast; the original bus garage was wrapped in the one-story 1987-1992 addition that enclosed Decatur Street to the left (north) of the administrative offices and provided WMATA with rooftop parking at the south and east (Google)



Figure 10. 1987 photograph looking east showing the extent of the demolition that occurred within the bus garage. The entire ceiling and roof structure in this area was removed except for one bay along the perimeter of the east wall (WMATA Archive, George Washington University Special Collections)



Figure 11. Diagram showing the extent of the original roof structure that was removed during the 1987-1992 renovation in green. The red outline shows the original footprint of the garage and the blue outline shows the contemporary property outline. Everything outside the red outline was added during the 1987-1992 renovation (BBB)



Figure 12. Bus entry at the southern end of the west façade was added during the 1987-1992 renovation (BBB)



Figure 13. The two doorways to the right of the pedimented bay are not historic. The one on the left was changed from a window opening to a door prior to 1974 while the one on the right was changed during the 1987-1992 renovation (BBB)



Figure 14. A truncated roof shelters the original north elevation and Decatur Street. Large openings for buses were punched in the wall during the 1987-1992 renovation (BBB)



Figure 15. Roof of the 1987 addition abuts the original east elevation. Several of the arched windows have been infilled with brick (BBB)



Significant interior alterations were made to the administrative offices. Rooms were reconfigured, and a new stair and elevator tower addition was constructed at the north end of the office building. The stair and elevator tower was designed to match the Italian Renaissance Revival style of the rest of the building and features the same materials, a slate hipped roof, overhanging eaves with brackets, and similar brick detailing. The interior of the garage was also impacted. The majority of columns on the upper level were removed and reconstructed when the majority of the roof was demolished and rebuilt. On the lower level, the original columns and ceiling slab remain, however, the concrete floor slab was removed, and the floor was excavated approximately 12 inches and re-laid. The original columns and exterior walls are supported by non-historic concrete footings to adjust for the lowered floor. (See **Figure 16**)

Figure 16. Lower level of the bus garage; the original columns and ceiling are present, however, the concrete floor was removed and excavated in the 1980s. The new concrete footings below the columns are visible in the photo (BBB)



Summary of Exterior Conditions

The administrative offices and 14th Street façade exterior building fabric are in overall fair condition. Open and debonded masonry joints are present but are concentrated to vertical facing joints at the building cornices, projecting string courses, and sills. The stone and brick masonry exhibit limited spalling, cracks, perforations from ferrous metal inserts or previous attachments, inappropriate past masonry repairs and patches, soiling, and biological growth. Cracks and spalling are especially present at the stone cornice and the stone surrounds at the original streetcar openings along 14th Street. (See **Figure 17**) The pebble-dashed stucco material present at the eaves of the administrative offices and tower is in good to fair condition, exhibiting some areas of cracking and missing stucco. Many slates on the hipped roof are broken or loose. Metal snow guards are bent and ineffective and the construction of the slate roof shows deficiencies. The roof should be investigated for appropriate flashing, slate headlap, underlayment, and ridge construction. The roof may require replacement.

Repair and restoration of the administrative offices and 14th Street NW masonry façade will require a variety of treatments. Cracks should be repaired and patched with grout or restoration mortar with a composition appropriate for the masonry substrate. Structural cracks may require the insertion of pins to further stabilize the masonry. Small spalls may be tooled to sound stone so that further spalling doesn't occur, and that water doesn't collect or pool. Larger spalls may require patching with restoration mortar or full or partial masonry replacement. All open and debonded joints should be repointed using matching mortar and missing masonry patched with matching materials. Ivy plants growing on the masonry should be carefully removed. The masonry should be cleaned using the gentlest means possible to remove soiling, staining, and biological growth. Soiling is especially apparent at the cornice and at the base of the building.

Figure 17. The north facing streetcar/bus opening adjacent to the tower exhibits stone cracking, spalling, and masonry soiling which require repair (BBB)



Summary of Treatment and Effects to the Historic Fabric

As discussed above, the bus garage has experienced many alterations across its 114-year history, especially as a result of the 1987-1992 renovation. Such changes have affected the integrity of the historic fabric. The 14th Street façade has been altered the least and retains much of its original Italian Renaissance Revival design. The façade, including the administrative offices and tower, has a high level of integrity of design, materials, and workmanship. The remaining elevations have been significantly modified and the integrity of design, materials, and workmanship has been diminished. The same can be said for the interior of the garage, which was significantly altered by the removal of the majority of the upper level columns, lower level slab, and roof structure.

The drawing below shows the existing historic masonry walls overlaid on the design for the upper level of the new bus garage. (See **Figure 18**) Due to the alterations of the historic fabric and the need for a new bus garage that can accommodate efficient and safe vehicle circulation for 40'-0" and 60'-0" articulated buses, the existing bus garage must be replaced. The new bus garage will also ensure adequate height clearance for newer diesel buses and future overhead charging for electric buses, be reorganized to expand the number of maintenance bays and bus storage parking, incorporate a retail element for increased community integration, will be able to 100 percent filter exhaust air, and will reduce operating costs through sustainable strategies. The replacement bus garage project proposes that the east wall and the majority of the north and south walls be demolished. However, the entire west façade, including the administrative offices and tower, would be retained and preserved allowing for the conservation, repair, and cleaning of areas of damage, weathering, soiling, and staining. There is also the opportunity to replace the existing widows with replicas of the historic windows and restore window openings that were previously infilled or replaced with louvers. Such treatments would be developed as design coordination for the project continues. Portions of the upper level of the north and

south elevations, immediately adjacent to the west façade, may be retained but will require continued design coordination and input from the Section 106 process and other review processes, before a final decision on treatment can be made.

Bibliography

Primary Resources

D.C. History Center

The D.C. History Center, located at the Carnegie Library in Washington, D.C. holds several photograph collections, including the John P. Wymer collection, Kathleen Sinclair Wood collection, the Crockett streetcar photo collection, and the Joseph Jessel streetcar slide collection, which had several photographs of the Northern Bus Garage from the 1940s through the 1960s. The Capital Transit Company records are also located at the History Center, which included photographs and blueprint drawings from 1914.

WMATA Archive at the George Washington University Special Collections Library

The WMATA Archives at the George Washington University Special Collections Library held many photographs of the bus garage from 1974 and of the 1987-1992 renovation and addition work.

Secondary Resources

National Register of Historic Places, Capital Traction Company Car Barn, Washington, D.C., National Register #13000290

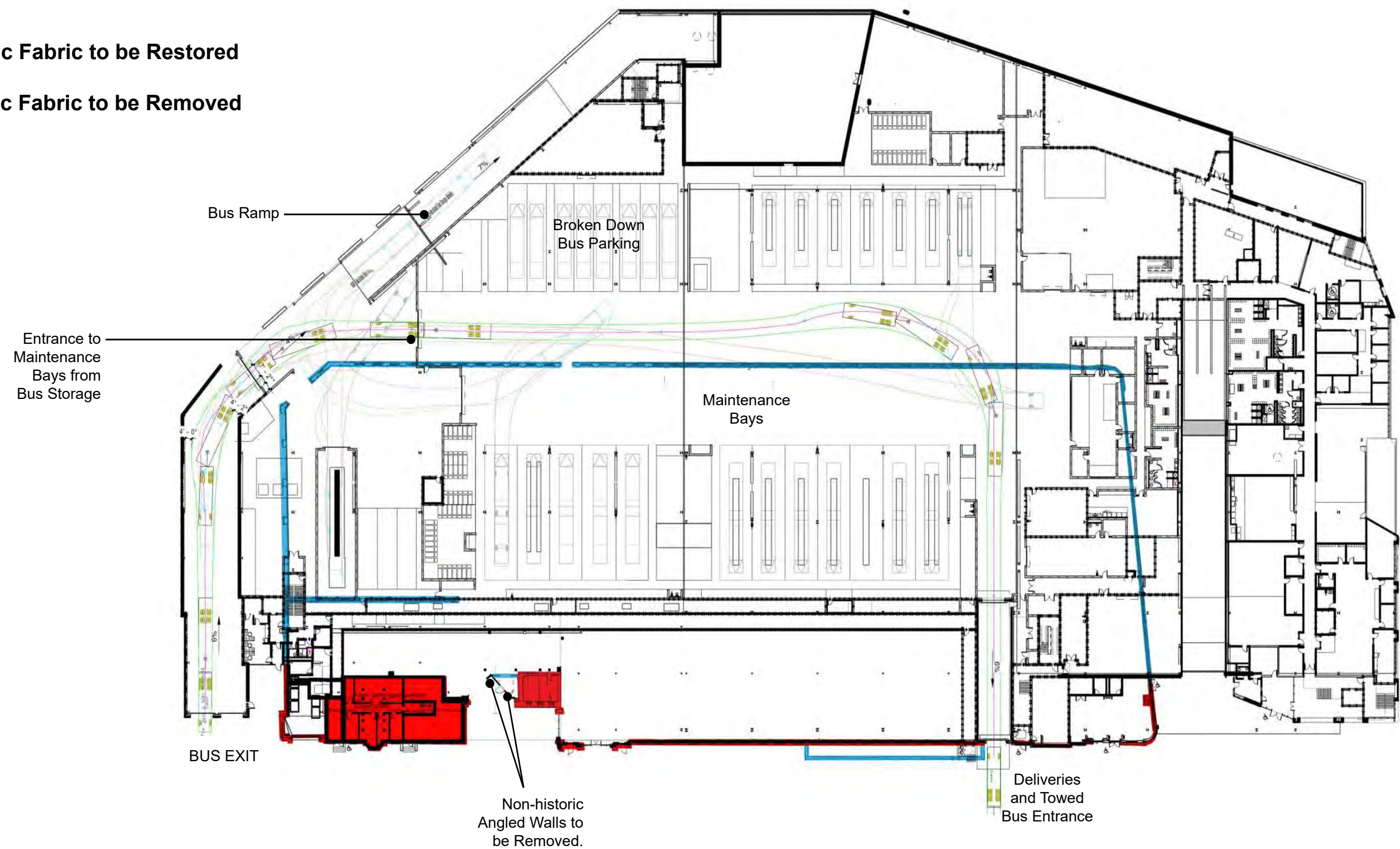
National Register of Historic Places, Streetcar and Bus Resources of Washington, D.C. Multiple Property Listing, Washington, D.C., #64500948

Northern Bus Garage

Proposed Floor Plan with Historic Overlay – Upper Level



- Historic Fabric to be Restored
- Historic Fabric to be Removed



ATTACHMENT 4
RESTORATION NARRATIVE SCOPE OF WORK, ELEVATIONS AND PLANS
NORTHERN BUS GARAGE RENOVATION PROJECT
MEMORANDUM OF AGREEMENT

Restoration Narrative Scope of Work

The restoration scope for the WMATA Northern Bus Garage will include the restoration of the 14th Street elevation; a 36'8" portion of the original south elevation, including the chimney; and a 28' 7" portion of the original north elevation. The restoration will include the removal of non-original alterations, including the c. 1987-1992 Administration Building stair tower, the 1970s angled brick wall in the original streetcar entry, two non-original pedestrian doors in the 14th Street elevation (northern door c. 1970, southern door c. 1987-1992), and the removal of non-original brick window infills. The elevations will be cleaned, repaired, and repointed where needed. The 14th Street NW elevation will be supported by temporary supports during excavation and construction of the new facility. The south portion of the elevation that will be retained will be catalogued, dismantled, and reassembled prior to restoration as its foundations are in conflict with the new bus drive aisle.

The elevation restoration includes the installation of new aluminum wrapped wood core IGU windows and exterior Administration Building doors to match the historic windows and doors as closely as is possible. Historic images, such as photographs and available plans, were used as source material for the design of new doors and windows. The historic symmetrical design of the doors will be retained for the new doors, in keeping with the historic character of the building. The two extant original wood windows on the 14th Street NW elevation will be restored and reinstalled in their existing locations. A historic round wood window currently located at the east elevation will be salvaged, restored, and installed in an opening in the 14th Street NW elevation where this same type of window was originally located, but the window was removed and bricked in at some point.

A survey completed in February of 2020 determined that overall, the brick masonry is in good condition. There are limited areas of step cracking, bio growth, staining, incompatible repointing, and previous alterations. All historic fabric will be cleaned in a manner consistent with the Secretary of the Interior's Guidelines for Rehabilitation: cleaning soiled masonry surfaces with the gentlest method possible. Non-original brick or mortar will be removed. Non-original and deteriorated mortar will be removed and replaced with an approved matching mortar as noted above. Non-original brick will be replaced with historic brick salvaged from the site and mortar analysis will be undertaken to determine an acceptable mortar for repairs. In order to retain as much historic masonry in situ as possible, small brick cracks or mechanical damage will be repaired rather than replaced. These repairs are ONLY for minor cracks and holes from anchors drilled in the face of the brick will be repaired with a patching mortar in compliance with the Secretary of the Interior's Guidelines for Rehabilitation.

The limestone and granite portions of the elevation are in a more distressed condition than the brick and will require more repair and, in select locations all noted on the drawings, replacement to match historic. Small areas of stone damage will be repaired with custom matched mortar repairs or dutchman. Only in a few limited instances will replacement to match historic be required. All limestone and granite will be cleaned in a manner consistent with the Secretary of the Interior's Guidelines for Rehabilitation: cleaning soiled masonry surfaces with the gentlest method possible. As detailed in contract documents, the non-historic parapet flashing currently installed in some locations on 14th Street will be removed to expose the historic limestone beneath. Small areas of stone damage will be repaired with custom matched mortar repairs or dutchman. Only in a few limited instances will replacement to match historic be required.

The pebble dash stucco at the cornice of the Administration Building and Tower will be cleaned in a manner consistent with the Secretary of the Interior's Guidelines for Rehabilitation: cleaning soiled masonry surfaces with the gentlest method possible. Repairs are identified in the contract documents where cracking and de-laminating has occurred. The painted wood trim in the cornice will be cleaned, repaired, and repainted.

The restoration will include the replacement of the non-original Administration Building and Tower slate and metal roofs with historically appropriate slate and metal roofing. The roofs and underlayment require full replacement based on poor condition. New gutters and downspouts to match the historic will be installed.

Restoration Elevations and Plans on following pages:



1914 Photograph (DC History Center)

WMATA Northern Bus Garage

4615 14th Street NW
Washington, D.C. 20011

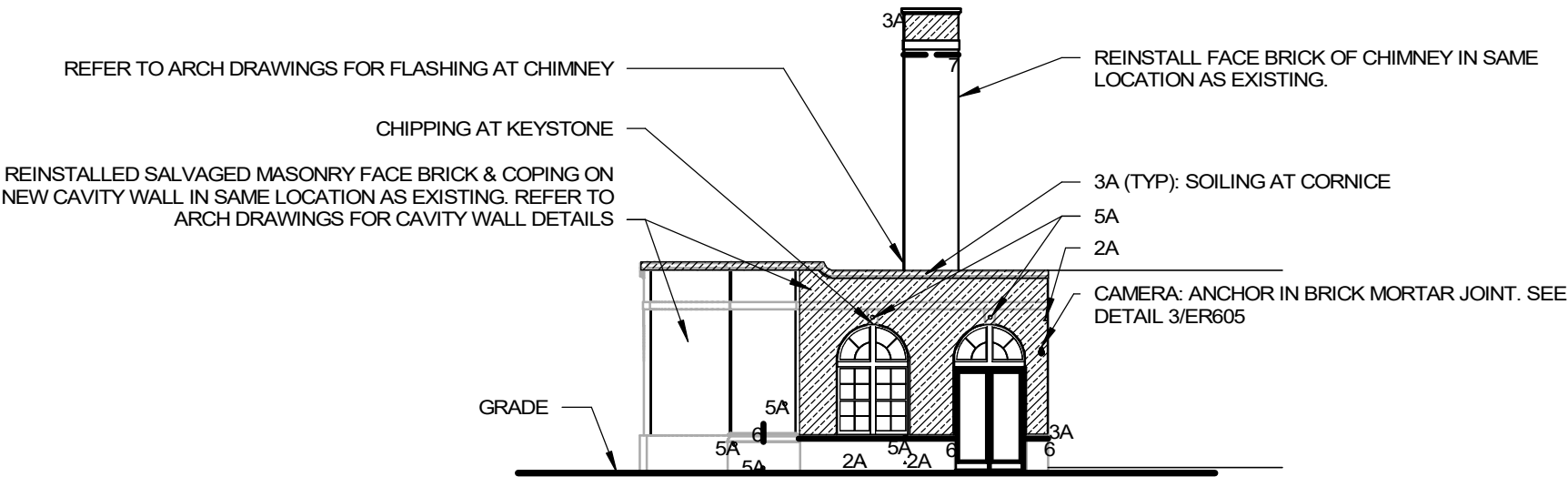
Elevations for Section 106 Consultation
October 1, 2021

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

PREPARED BY:

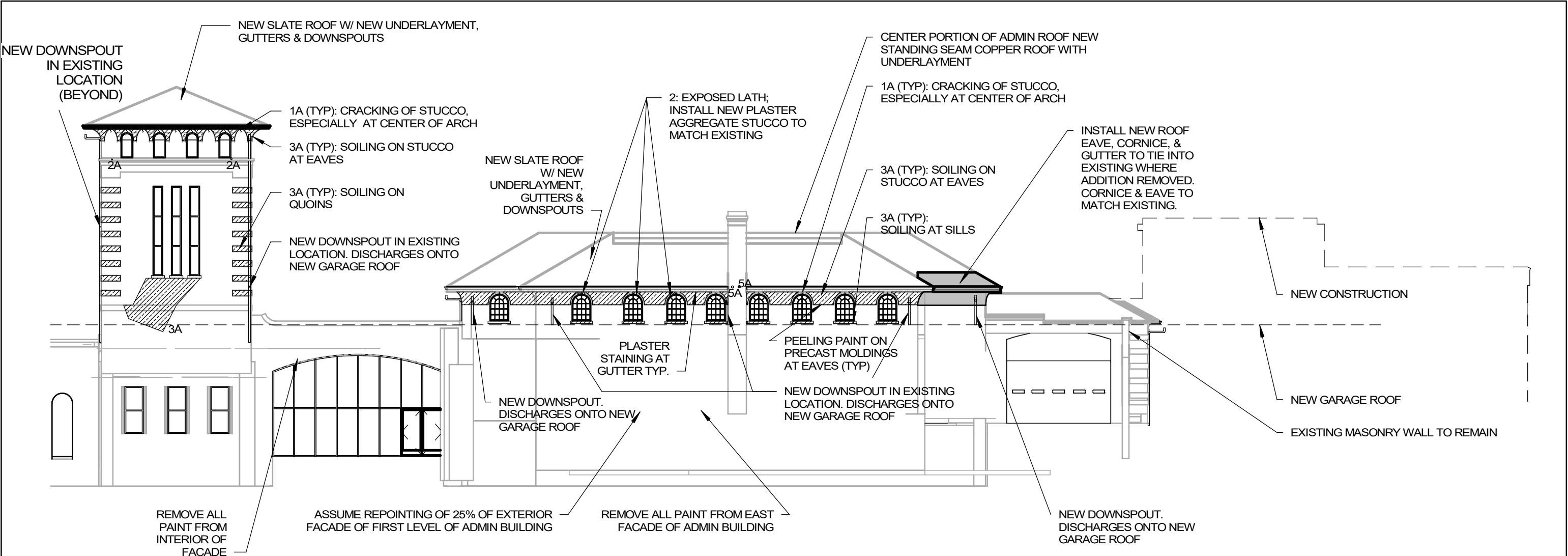
BEYER BLINDER BELLE ARCHITECTS & PLANNERS LLP
3307 M STREET NW
WASHINGTON, D.C. 20007

Northern Bus Garage - Preservation Treatment Approach - Elevations



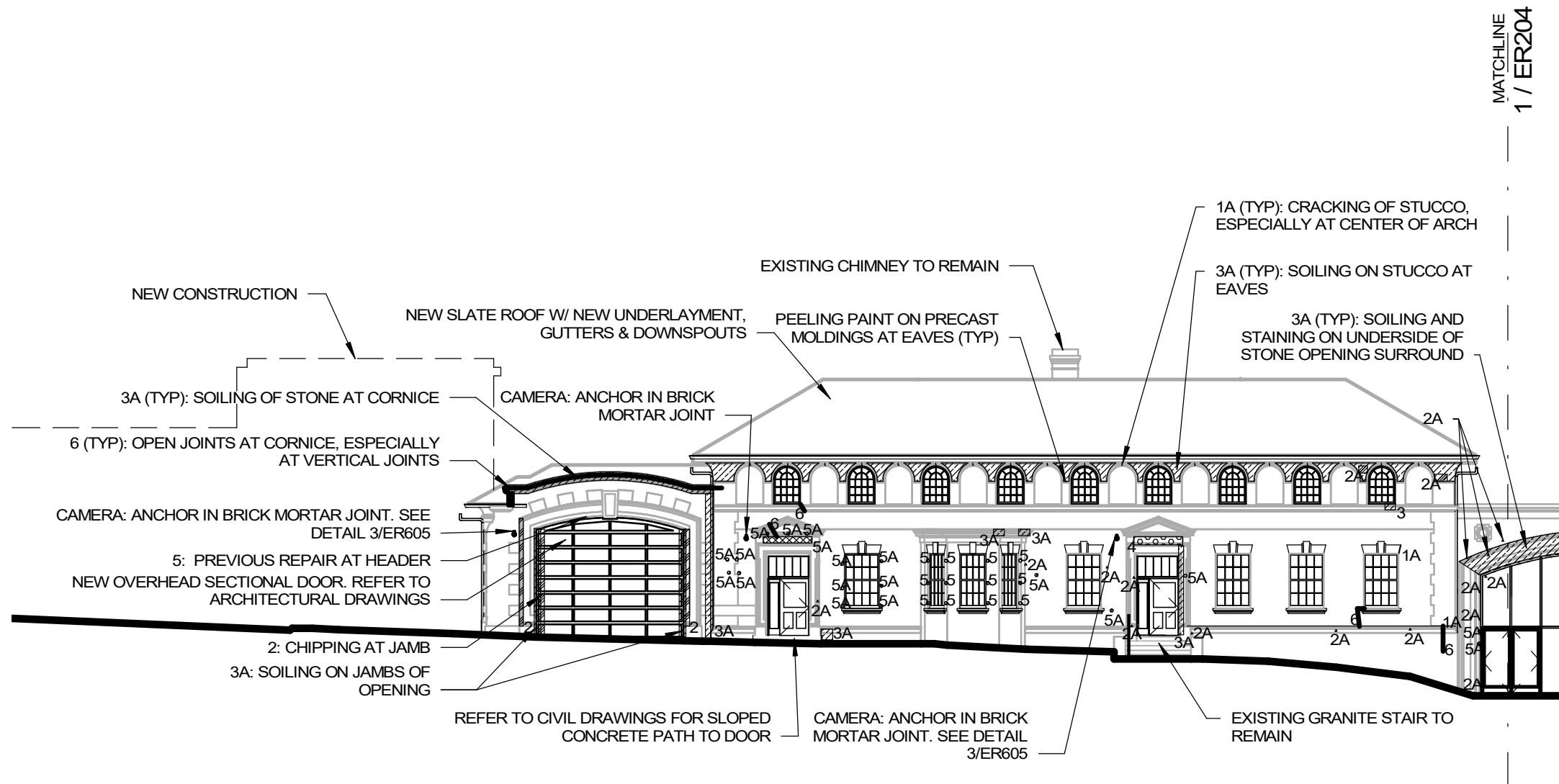
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










Northern Bus Garage - Preservation Treatment Approach - Elevations



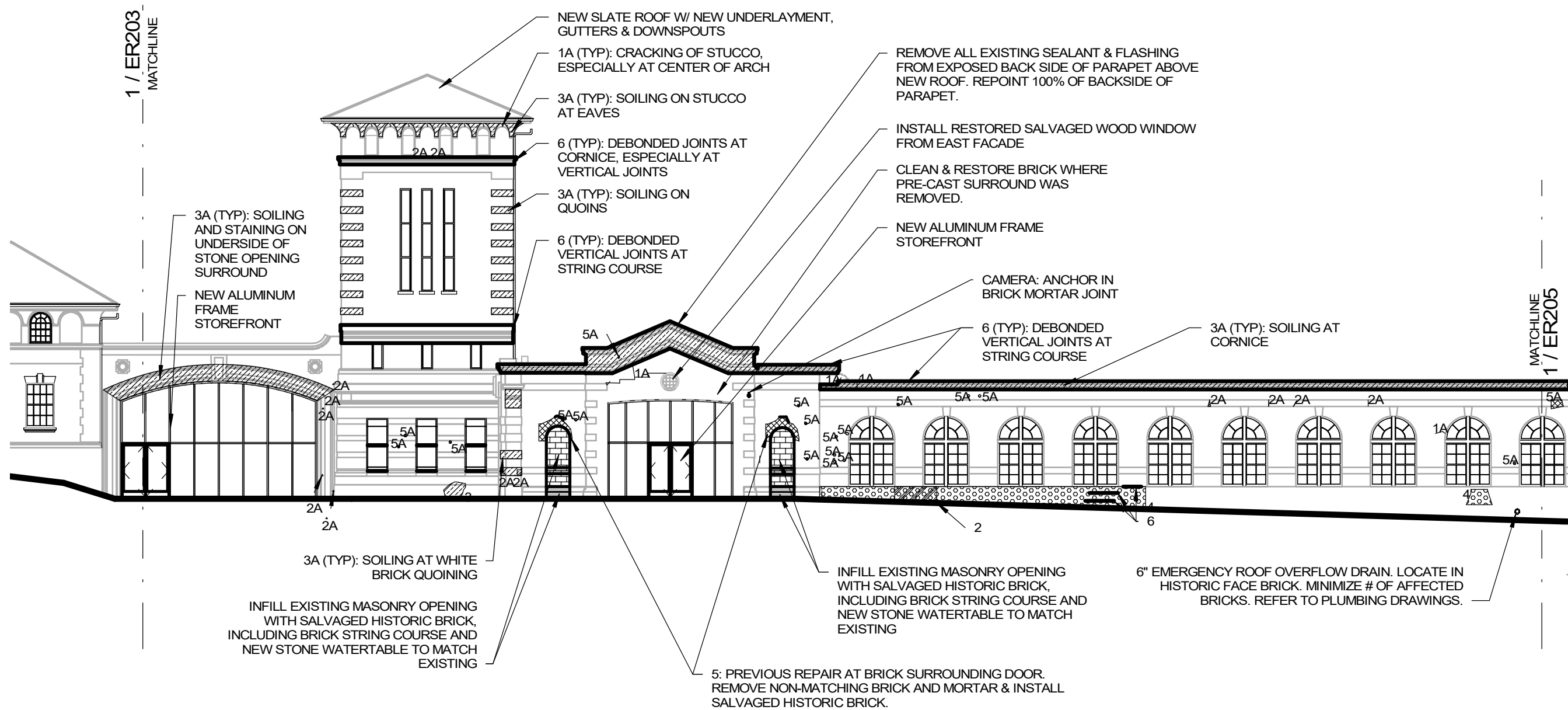
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Northern Bus Garage - Preservation Treatment Approach - Elevations



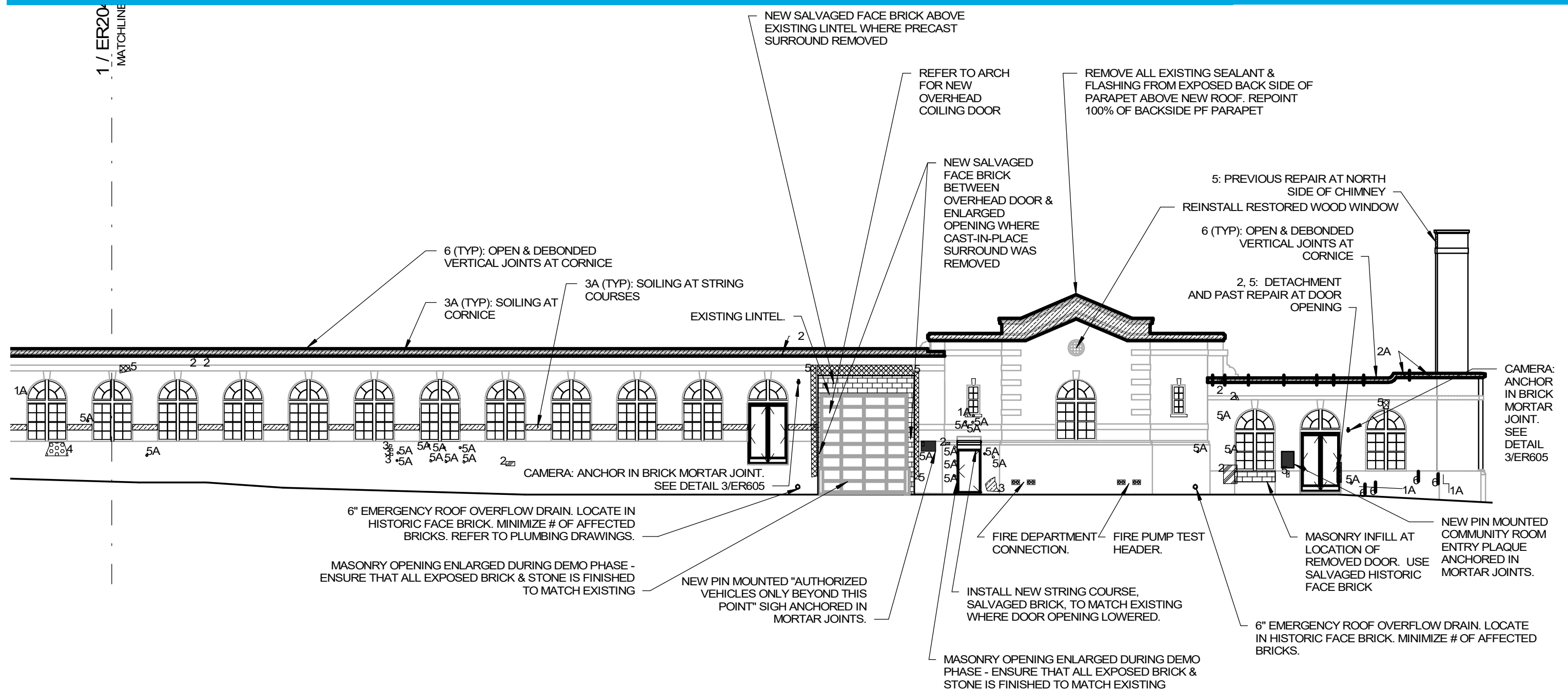
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Northern Bus Garage - Preservation Treatment Approach - Elevations



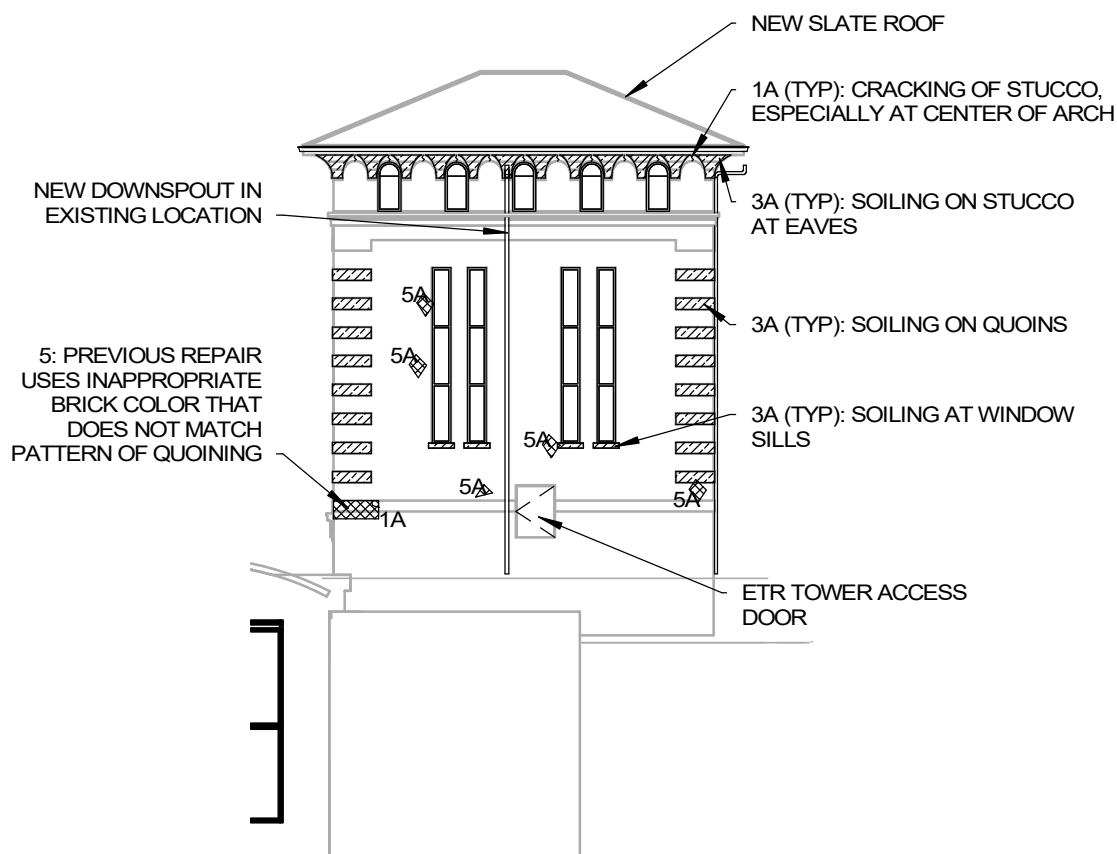
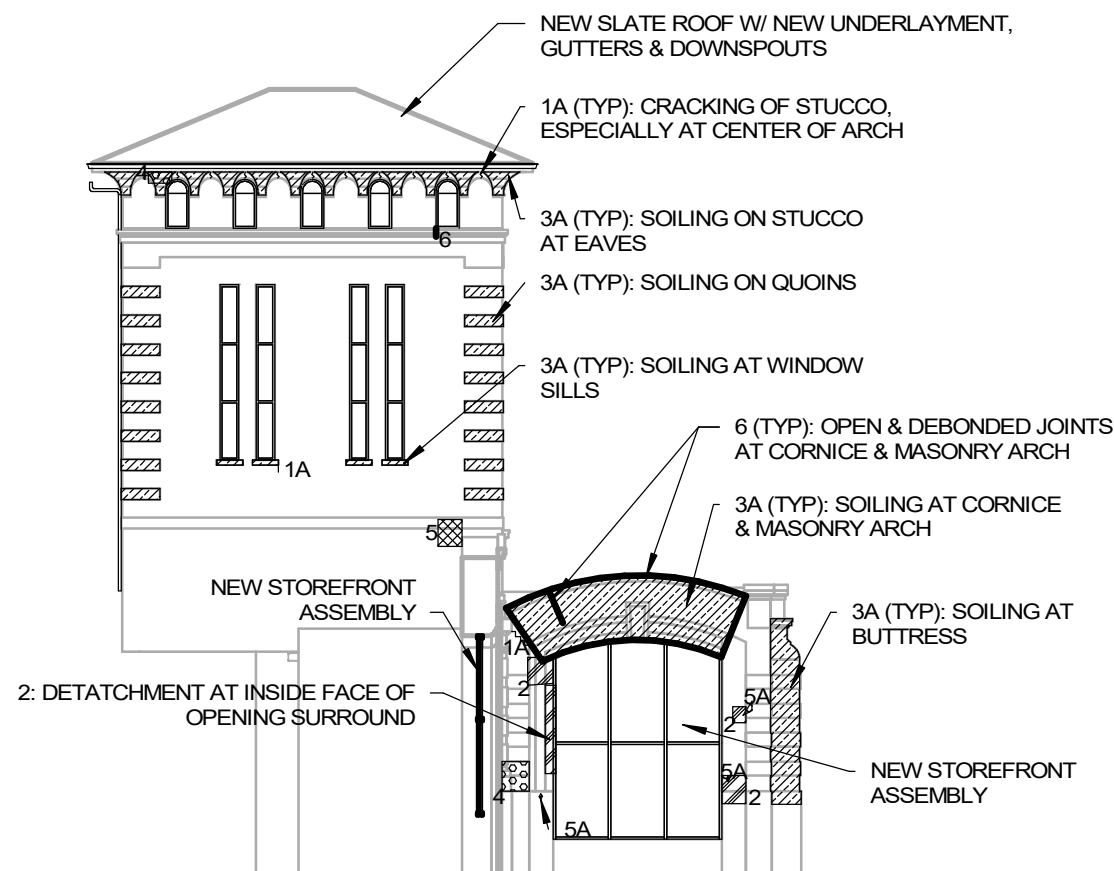
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Northern Bus Garage - Preservation Treatment Approach - Elevations



SYMBOLS LEGEND		SHEET		NOTES
<div><div><div></div><div>EXISTING</div></div><div><div></div><div>NEW OR REINSTALLED</div></div><div><div></div><div>SALVAGED HISTORIC FABRIC</div></div></div> <div>EXISTING CONDITIONS REQUIRING TREATMENT</div> <div><div><div></div><div>1 - REPAIR CRACKS AND DEFORMATION</div><div>1A - CRACK</div></div><div><div></div><div>2 - REPAIR DETACHMENT AND DISLOCATION</div><div>2A - CHIPPING</div></div><div><div></div><div>3 - CLEAN DISCOLORATION AND DEPOSITS</div><div>3A - SOILING</div></div><div><div></div><div>4 - REMOVE BIOLOGICAL COLONIZATION</div></div></div>	<div><div><div></div><div>5 - ALTERATIONS/PREVIOUS REPAIRS. REMOVE NON-ORIGINAL BRICK OR STONE & INSTALL SALVAGED HISTORIC BRICK OR NEW STONE TO MATCH EXISTING.</div><div>5A - FERROUS METAL INSERTS</div></div><div><div></div><div>6 - OPEN JOINT</div><div>7 - DEBONDED JOINT</div></div><div><div></div><div>8 - INACCESSIBLE PORTION OF FACADE DUE TO EXISTING CONSTRUCTION. BBB TO SURVEY AFTER DEMOLITION</div></div></div> <div>REFER TO BRICK AND STONE REPAIR, REPOINTING AND CLEANING SPECIFICATIONS FOR TREATMENT PROCEDURES</div>	<div><div><div></div><div>NEW ALUMINUM WRAPPED WOOD CORE WINDOW WITH IGU</div><div>RE: ER-601 FOR WINDOW SCHEDULE</div></div><div><div></div><div>REINSTALLED RESTORED HISTORIC WOOD WINDOW</div><div>RE: ER-601 FOR WINDOW SCHEDULE</div></div><div><div></div><div>NEW DOOR TAG</div></div><div><div></div><div>WINDOW TAG</div></div></div>	<div><div><div>1. INSTALL NEW SLATE ROOF AND UNDERLAYMENT AT TOWER, ADMINISTRATION BUILDING, & HIPPED ROOF TO NORTH OF ADMINISTRATION BUILDING TO REMAIN. REFER TO ARCH DRAWINGS FOR SPLASH BLOCKS</div><div>2. ALL MASONRY TO RECEIVE GENERAL CLEANING. REFER TO MASONRY CLEANING SPECS</div><div>3. REMOVE ALL EXISTING PARAPET FLASHING . REPOINT ALL SKYWARD FACING JOINTS IN PARAPET & INSTALL LEAD T'S AT ALL HORIZONTAL JOINTS IN EXISTING LIMESTONE COPING</div></div><div><div><div></div><div>1</div><div>ER101</div></div><div>EL-03-03 WEST ELEVATION - EXTERIOR RESTORATION</div><div>1/16" = 1'-0"</div></div></div>	

Northern Bus Garage - Preservation Treatment Approach - Elevations

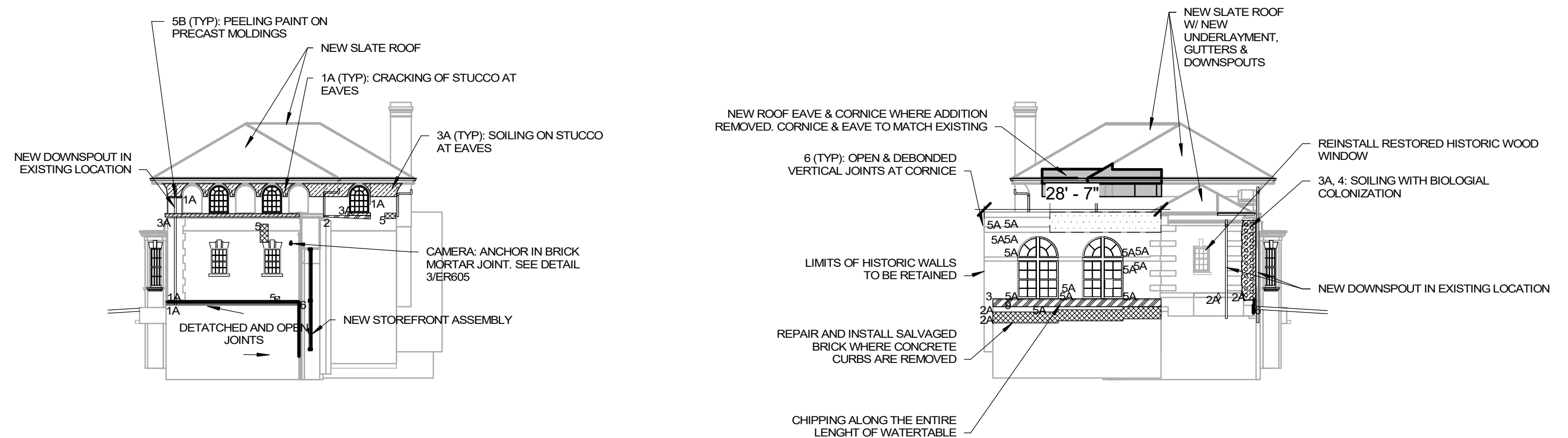


2 EL-04-02 TOWER NORTH ELEVATION - EXTERIOR RESTORATION
ER102 1/16" = 1'-0"

4 EL-01-02 TOWER SOUTH ELEVATION - EXTERIOR RESTORATION
ER102 1/16" = 1'-0"

SYMBOLS LEGEND			SHEET	NOTES
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Northern Bus Garage - Preservation Treatment Approach - Elevations



1
ER102

EL-01-02 ADMIN SOUTH ELEVATION - EXTERIOR RESTORATION

1/16" = 1'-0"

2
ER102

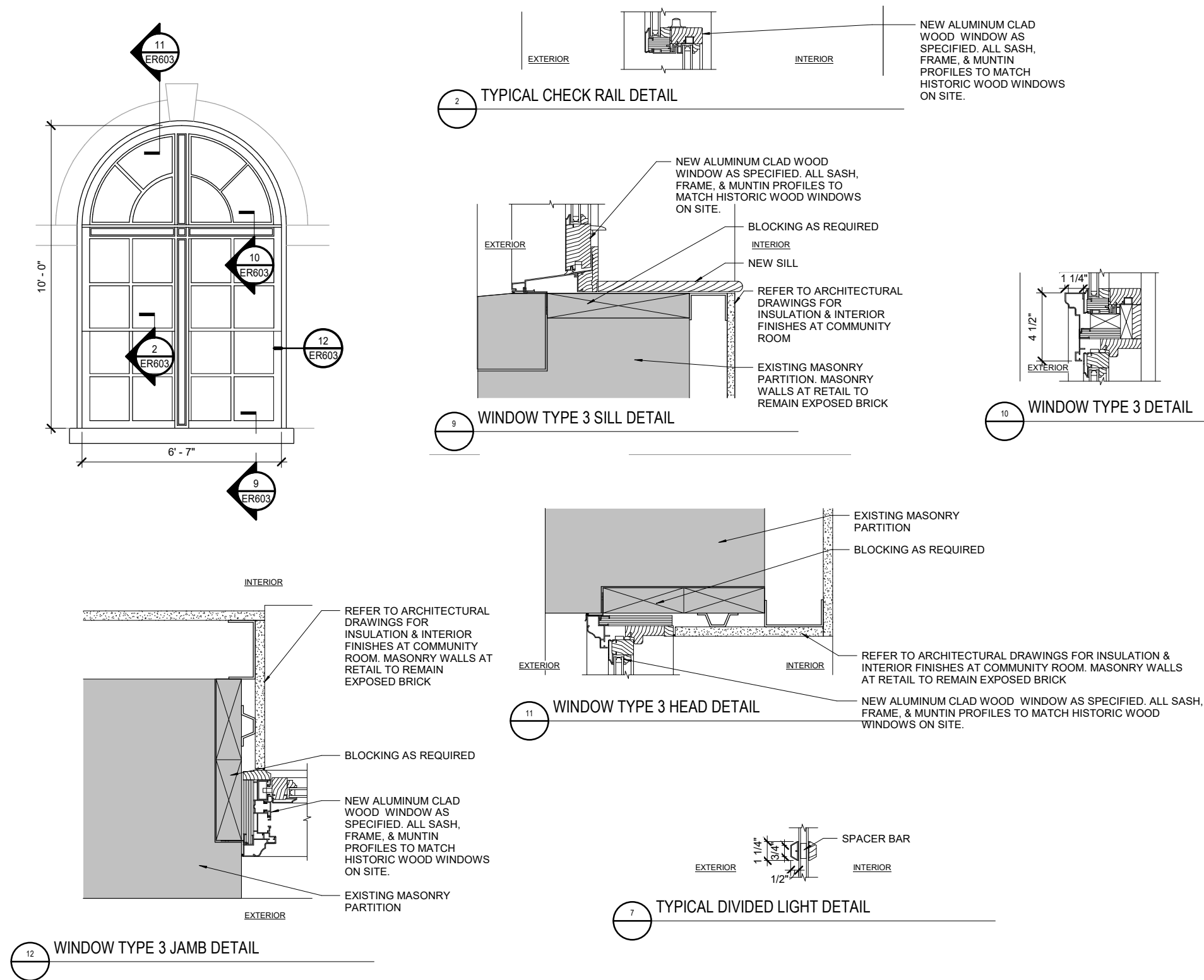
EL-04-02 ADMIN NORTH ELEVATION - EXTERIOR RESTORATION

1/16" = 1'-0"

SYMBOLS LEGEND			SHEET	NOTES
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Northern Bus Garage - Preservation Treatment Approach - Windows

Window Type 3

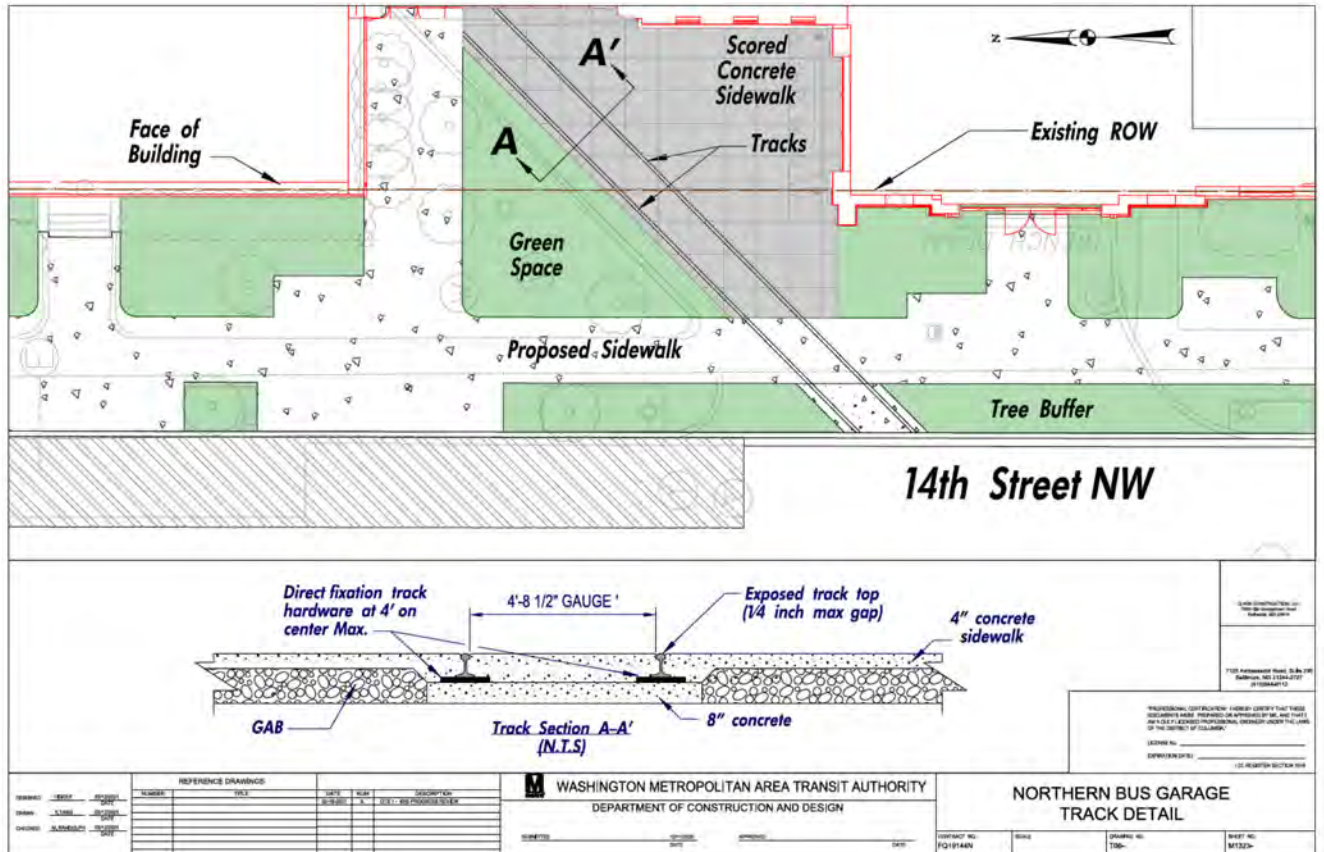


Remaining Original Window



All sash, frame, and muntin profiles to match the only remaining original window on site.

ATTACHMENT 5 **REPLICA STREETCAR TRACK INSTALLATION** **NORTHERN BUS GARAGE RENOVATION PROJECT** **MEMORANDUM OF AGREEMENT**



ATTACHMENT 6
INTERPRETIVE SIGNAGE EXHIBITS
NORTHERN BUS GARAGE RENOVATION PROJECT
MEMORANDUM OF AGREEMENT

To help mitigate the adverse effects associated with the renovation of the Northern Bus Garage, WMATA will develop and install interpretive signage exhibits as described below. This Scope of Work is organized into four sections: Background, Goals of the Exhibits, Tasks, and Deliverables.

Background:

WMATA plans to renovate the Northern Bus Garage, which is listed in the National Register of Historic Places (NRHP; NR# 13000290 listed April 5, 2013) and as a DC Historic Landmark (September 27, 2012) as the Capital Traction Company Decatur Street Car Barn. The renovation effort will remove portions of the historic fabric of the car barn, which will result in an adverse effect.

As part of mitigation efforts for the adverse effect, WMATA will be providing interpretive signage exhibits as explained below. Exterior signage shall focus on the historical and architectural characteristics (the building's history, architecture, and use) that qualify the building for listing in the NRHP. Interior exhibits will provide additional details about the Northern Bus Garage and related topics such as the role the garage played in the development of the surrounding neighborhood and community.

Goal of the Exhibits:

These interpretive signage exhibits will explain the historical and architectural characteristics that qualify the Northern Bus Garage for listing in the NRHP and connect the community and others to the significance of the Northern Bus Garage, especially the restored portions of the 1906 building along 14th Street, NW, by explaining the role the facility played in the development of transportation in Washington, D.C. and the surrounding neighborhood. Broader topics related to commercial development, social history, African American history, and other themes associated with the facility and the community will also be addressed in the community room exhibits to provide relevant information from a wider variety of perspectives. All exhibits will be designed to be compatible with their historic setting, both exterior and interior, and will not cause any damage to historic fabric.

Specific Tasks:

One to three exterior interpretive signage exhibits will be developed to explain the historical and architectural significance of the Northern Bus Garage. Text will be based upon the NRHP nomination for the Capital Traction Company Car Barn, the NRHP Multiple Property Documentation for Streetcar and Bus Resources of Washington, DC 1862-1962, and related research. One exhibit will be used to explain the replica streetcar tracks that will be installed in

front of the Northern Bus Garage along 14th Street, NW. Proposed signage locations will be identified through consultation with the DC SHPO. The primary location of exterior exhibits will be adjacent to the restored portions of the building on 14th Street, NW, but additional exhibits may also be installed adjacent to and/or on newly constructed portions of the Northern Bus Garage to provide additional interpretive opportunities and to enliven and break down the scale of the large new building. The appearance of the exterior exhibits, especially those along 14th Street, NW and within or adjacent to public space, will be based upon existing interpretive signage exhibits within the District of Columbia (e.g. the Neighborhood Heritage Trails installed by Cultural Tourism DC and/or the Kalorama Citizens Association signage – see examples below) to provide consistency throughout the city and make it easier for users to recognize the as interpretive signage exhibits. Any interpretive signage exhibits that may be attached to the newly constructed portions of the Northern Bus Garage may be designed with greater flexibility.





QTY: 1 (24"x42") EXTERIOR GRAPHIC FOR PEDESTAL

SCALE: 3/4"=1'-0"

MATERIAL: EXTERIOR GRADE CHPL GRAPHIC FOR
SURFACE MOUNT ON PEDESTAL



Up to five interior interpretive signage exhibits will be installed in the 1600 sq. ft. community room which, for reference, has a finished wall height of 13 ft. 8 in. The interior exhibits shall focus on broader historical themes that relate to the development of the Northern Bus Garage and the surrounding neighborhood and community, including African-American History and related topics. The content will be determined in consultation with the DC SHPO and the consulting parties; the final number of exhibits will be determined in consultation with FTA and DC SHPO. The appearance of the interior signs should relate to that of the exterior signage exhibits, but more flexibility can be applied to the design of the interior exhibits provided they do not damage any historic interior fabric. For example, three-dimensional artifacts, audio/visual samples, personal memorabilia, and other creative methods of interpretation may be considered for incorporation into the designs.

Deliverables:

1. In accordance the Section 106 Memorandum of Agreement (MOA) the contractor hired by WMATA will solicit initial input from DC SHPO and the consulting parties regarding the topics they would like to have included in the interpretive signage exhibits. As appropriate to fully develop the topics, the contractor will conduct additional outreach to individuals or groups that are knowledgeable about community history.
2. Based upon the feedback provided in Deliverable 1 above, the contractor will research historical themes using primary and secondary sources. The contractor will conduct a minimum of three oral history interviews with relevant community members and people historically associated with the Northern Bus Garage facility. Oral histories shall be transcribed and transcriptions shall be provided to consulting parties upon request.

3. The contractor will develop draft text and graphics for interpretive signage exhibits, along with recommendations for the locations, size, and related details in keeping with the existing interpretive signage examples cited above.
4. Full color drafts of all interpretive signage exhibits will be provided in digital format to the consulting parties and DC SHPO for review and comment.
5. The contractor shall submit digital versions of the full color drafts and all consulting party comments to the DC SHPO for final review. The contractor will consult further with the DC SHPO to finalize all aspects of the interpretive signage exhibits including but not limited to text, images, location, size and design. Once approved by DC SHPO in writing, the contractor shall prepare final plans and a cost estimate for fabrication and installation of all interpretive signage exhibits.
6. WMATA shall fabricate and install all the interpretive signage exhibits within thirty days of issuance of the building occupancy permit, in accordance with the Section 106 MOA.

APPENDIX 9: SECTION 4(F) EVALUATION

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Northern Bus Garage

Section 4f Evaluation

Prepared for the Washington Area Metropolitan Transit Authority
(WMATA)

Prepared by EHT Tracerics, Inc. and HNTB
December 2021

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1.0 INTRODUCTION

Section 4(f) of the U.S. Department of Transportation Act of 1966 states that “it is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites.”¹ This evaluation assesses the potential for improvements to the Northern Bus Garage to use publicly owned parklands, publicly owned recreation areas, publicly owned wildlife and waterfowl refuges, and historic properties (whether publicly or privately owned) eligible for protection under the provisions of Section 4(f) of the U.S. Department of Transportation Act of 1966 (commonly referred to as Section 4(f)). This Section 4(f) evaluation has been prepared in accordance with the Federal Transit Administration (FTA), Federal Highway Administration (FHWA), and Federal Railroad Administration (FRA) regulations for Section 4(f) compliance as codified in 23 CFR Part 774. In addition, this analysis also relied on FHWA’s 2012 Section 4(f) Policy Paper, which supplements the Section 4(f) regulations and has been adopted by FTA.

The Northern Bus Garage, known also as the Northern Division Bus Garage, is located on Fourteenth Street, NW, between Buchanan Street, NW, and Decatur Street, NW, in Washington, DC (Figure 1-1).

Figure 1-1: Detail of U.S. Topographic Map, Washington, DC West Quadrant, 2019



¹ 49 USC 303(a)

2.0 LEGAL AND REGULATORY REQUIREMENTS

Section 4(f) of the U.S. Department of Transportation Act of 1966 (49 U.S.C. § 303), as amended, applies to the U.S. Department of Transportation (U.S. DOT) and protects publicly owned parks and recreation areas; publicly owned wildlife and waterfowl refuges; and historic sites of national, state, or local significance (whether publicly or privately owned). Section 4(f) prohibits the FTA and other U.S. DOT agencies from using land from publicly owned parks, recreation areas (including recreational trails), wildlife and waterfowl refuges, or public and private historic properties, unless there is no feasible and prudent alternative to that use and the action includes all possible planning to minimize harm to the property resulting from such a use, with some limited exceptions.

Section 4(f) does not apply to parks, recreation areas, and wildlife and waterfowl refuges if those properties are privately owned. However, Section 4(f) does apply to all historic properties that are listed or eligible for listing in the National Register of Historic Places (NRHP), regardless of whether they are publicly or privately owned. Section 4(f) also applies to archaeological sites on or eligible for inclusion in the NRHP and that warrant preservation in place.

Section 4(f) also provides specific consultation roles for the owners and/or managers of Section 4(f) properties as officials with jurisdiction. For historic properties listed in or eligible for listing in the NRHP, the State Historic Preservation Officer (SHPO) is the official with jurisdiction and fulfills their role under Section 4(f) through their role in the consultation process required by Section 106 of the National Historic Preservation Act. Depending on the specific type of resource and the consultation process involved under Section 106, the Advisory Council on Historic Preservation (ACHP) and/or the National Park Service may also serve as officials with jurisdiction under Section 4(f).

3.0 DESCRIPTION OF PROPOSED ACTION

The proposed project is the FTA-funded WMATA replacement of the Northern Bus Garage, located at 4615 Fourteenth Street, NW. A portion of the Northern Bus Garage consists of the former Capital Traction Company Car Barn, which has been listed in the NRHP. Current operational and programmatic challenges require facility improvements in order to meet WMATA's goals of modernization, sustainability, increased community integration, and flexibility for the needs for both electric and diesel buses. Replacement is required to address the following needs:

- Efficient and safe vehicle circulation for standard and articulated buses;
- Adequate height clearance for newer diesel buses and future overhead charging for electric buses;
- Modernization of the existing garage with updated equipment;
- Reorganization of the existing footprint to expand the number of maintenance bays and bus storage parking to meet current and future needs;
- Incorporation of a retail element for community integration, pending design decision by WMATA;
- Reduction of operating costs through sustainable strategies and a potential solar array;
- Air quality in the garage must meet modern environmental and safety standards (100% filtered exhaust air commitment, which requires large amounts of indoor mechanical space);
- Expanded vehicle circulation inside the facility to meet safety requirements; and
- The need for repairing failing concrete elements and improving natural lighting while engaging the community through its architectural design (there are no windows facing the streets except for those along the historic Fourteenth Street façade and structural considerations are required to support the Fourteenth Street facade during and after construction).

4.0 SECTION 4(F) RESOURCES

Under Section 4(f), resources in any study area can include existing and planned publicly owned parks, as well as historic properties listed in or eligible for the NRHP.

An analysis to identify cultural resources within the project's Area of Potential Effects (APE) was undertaken in accordance with Section 106 of the National Historic Preservation Act. The APE was developed in consultation with the District of Columbia SHPO (DC SHPO). The APE for historic resources includes all areas directly or indirectly affected by the proposed project. Direct impacts include considerations such as visual impacts and sound disturbance that could impact areas around the Northern Bus Garage. The APE for archaeology includes all areas of anticipated project-related ground disturbance (e.g., excavation, grading, cutting, and filling, and utility installation activities as well as activities undertaken during construction that may result in unintentional soil compaction, erosion, or other disturbance). **Figure 4-1** shows the APE for aboveground historic properties. The Archaeological APE is confined to the footprint of any sub-grade disturbance. According to WMATA's Section 106 consultation report, locations of planned sub-grade activities have been previously disturbed, and therefore, no archaeological resources are present within the APE.

4.1 Architectural Resources and Historic Sites

The Section 106 APE for aboveground historic resources for this undertaking includes both physical and visual impacts, with the APE boundary defined as the distance from which a person could see the proposed undertaking. Most of the APE is confined to properties located along both sides of Iowa Avenue, NW, Fourteenth Street, NW, and Buchanan Street, NW. All three of these streets are adjacent to the project site. The APE boundary also includes additional blocks of Crittenden and Decatur Streets, NW, which also contain unobstructed views from the middle of these streets.

4.2 The Capital Traction Company Car Barn

The study area contains one designated historic property, the Capital Traction Company Car Barn, which is now part of the Northern Bus Garage located at 4615 Fourteenth Street, NW. The building was originally constructed to house street cars. Since 1926, the building has been used as a bus garage. The building, owned by WMATA, was listed in the NRHP (NR#13000290) on May 22, 2013. The local architectural firm of Wood, Donn and Deming designed the Decatur Street Car Barn in the Italian Renaissance style. Constructed for the Capital Traction Company in 1906-1907, the 537-foot-by-208-foot masonry building features decorative stone detailing exhibited in its keystones, quoins, and belt courses. The Car Barn's most prominent façade resembles a sixteenth century Italian villa featuring a prominent tower and arcaded streetcar openings that face Fourteenth Street.

89 The site has changed over the years. The original Car Barn occupied approximately half of its site. Bus-related
90 modifications began as early as 1926 with an addition constructed onto the east side of the building to

Figure 4-1: Area of Potential Effects (APE) for Historic Resources

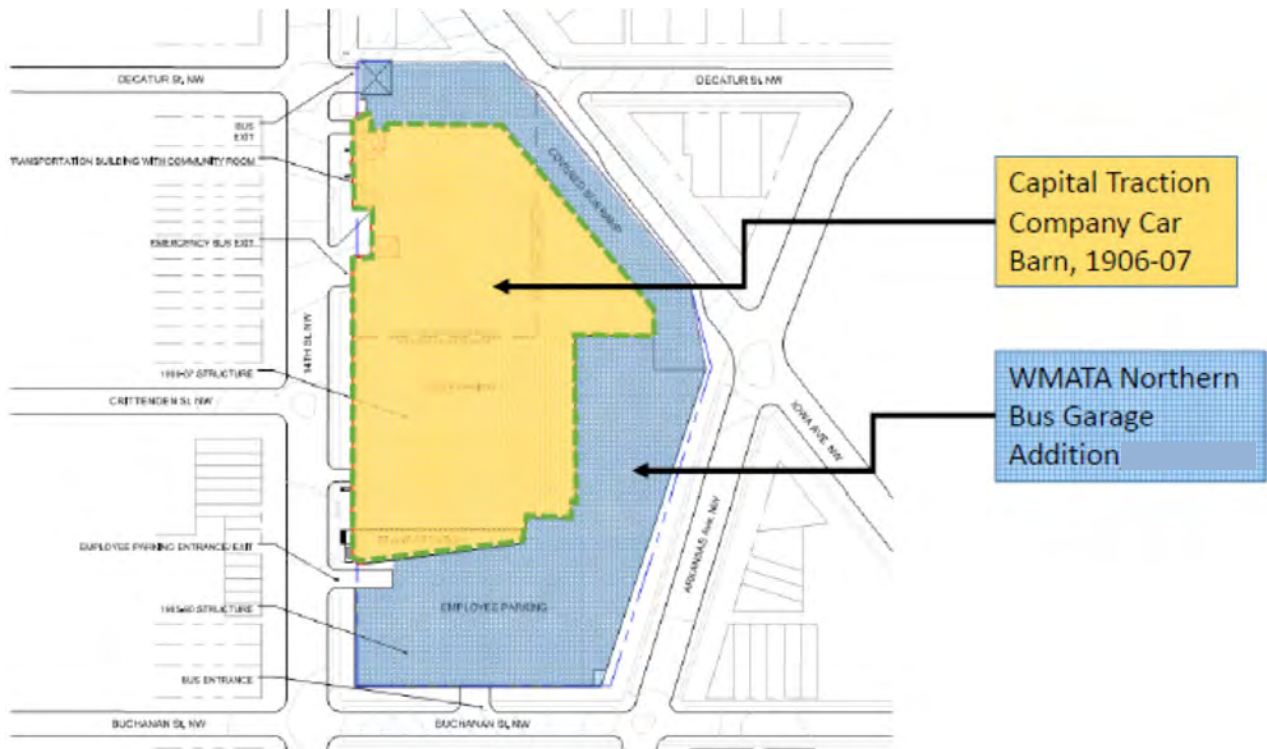


91 accommodate bus storage. By 1959, the entire building was converted to a bus garage. WMATA, which
92 acquired ownership of the building in 1967, significantly expanded the facility between 1989-1992 with the
93 construction of a large, one-story bus maintenance facility and storage area. The facility renovation also
94 resulted in the replacement of most of the roof of the original building, removal of historic fabric from the
95 interior of the building, and the closure of Decatur Street to provide additional bus egress. The cumulative
96 result of renovations encapsulated the historic car barn in new construction. Despite the additions, the
97 historic Car Barn still retained sufficient integrity to be listed in the NRHP in 2013. **Figure 4-2** shows the
98 location of the Capital Traction Company Car Barn in relation to the Northern Bus Garage.

4.3 Archaeological Sites

No archaeological sites have been previously documented within the APE. The Capital Traction Company Car Barn was constructed with a lower level that resulted in below grade construction that disturbed any potential archaeological resources within the study area. There will be no planned additional ground disturbance in areas that have not been previously disturbed. Therefore, no archaeological resources are present within the archaeological APE.

Figure 4-2: Location of Capital Traction Car Barn in relation to the Northern Bus Garage



4.4 Public Parks, Recreation Areas, and Wildlife or Waterfowl Refuges

No publicly owned parks, recreation areas, or wildlife or waterfowl refuges are located within the study area.

5.0 SECTION 4(F) EVALUATION

There are several types of Section 4(f) "uses," including when land is permanently incorporated into a transportation facility, when land is temporary incorporated into a transportation facility and that occupancy is adverse in terms of Section 4(f)'s preservation purpose, when land is constructively used, or when there is a *de minimis* use of the land. There are specific applicability provisions and exceptions in the FTA regulation as well, such as "temporary occupancies," that are not applicable in this situation and will not be addressed.

5.1 Section 4(f) Use

Pursuant to 23 CFR 774.17, a use includes the partial or full acquisition and incorporation of the Section 4(f) resource into the transportation facility. A temporary occupancy of a Section 4(f) resource also constitutes a “use” if that occupancy is adverse in terms of Section 4(f)’s preservation purpose. FTA has defined when a temporary occupancy does not constitute a use in its regulation at 23 CFR 774.13(d).

5.2 Constructive Use

Constructive use occurs when proximity effects of the transportation project, such as noise, vibration, air quality, or visual impacts, are so great that the use of the property is substantially impaired. Such substantial impairment would occur when the proximity impacts to Section 4(f) resources are sufficiently serious that the value of the resource, in terms of its prior significance and enjoyment, are substantially reduced or lost. This threshold of substantial impairment is a high one and is reserved for the most severe proximity effects. Examples provided in the regulations implementing Section 4(f) involve the following scenarios:

- The projected noise level increase from the project would substantially impair the use and enjoyment of a resource protected by Section 4(f), such as enjoyment of a historic site where a quiet setting is a generally recognized feature or attribute of the site’s significance;
- The proximity of the proposed project would impair the aesthetic quality of a resource, where aesthetic qualities are considered important contributing elements to the value of a resource, such as d to visual or aesthetic qualities that obstructs or eliminates the primary views of an architecturally noteworthy historical building;
- Where a project results in a restriction of access that substantially diminishes the utility of a significant publicly owned park, recreation area, or a historic site; or
- A vibration impact from the operation of a project would substantially impair the use of a Section 4(f) resource, such as projected vibration levels from a rail transit project great enough to affect the structural integrity of a historic building.

5.3 De Minimis Impact

If FTA determines that the use of the Section 4(f) property, including any measure(s) to minimize harm (such as any avoidance, minimization, mitigation, or enhancement measures) committed to by the applicant, will have a *de minimis* impact, FTA may make a *de minimis* impact determination (23 CFR 774.3(b)). For a *de minimis* impact determination, the consulting parties identified in accordance with the Section 106 consultation process (discussed below) must be consulted and FTA must receive written concurrence from the SHPO and from the ACHP, if the latter is participating in the consultation process, in a finding of “no adverse effect” or “no historic properties affected” in accordance with the Section 106 Consultation process set forth in 36 CFR part 800.

6.0 PROPERTY IDENTIFICATION/USE ASSESSMENT

FTA’s Section 4(f) regulation requires an assessment of whether a project will result in a use, constructive use, or *de minimis* use of Section 4(f) properties. The following assesses the potential for those types of uses.

6.1 Use

The project will require the demolition and removal of historic features as well as construction of a new

facility on one historic property, the Capital Traction Company Car Barn, which resulted in an adverse effect finding under Section 106. Therefore, the project constitutes a use under Section 4(f). An evaluation of potential avoidance alternatives is included in Section 7.0 below, and all possible planning to minimize harm is discussed in Section 8.0 below.

6.2 Constructive Use

Historic Properties

Because the project will require the use of the historic Car Barn facility, there is no need to evaluate whether the project would result in the “constructive use” of that facility.

6.3 *De Minimis* Impact

Historic Properties

The intended use of the Capital Traction Company Car Barn required to address WMATA’s program needs for the Northern Bus Garage will result in a significant removal of historic materials that resulted in a finding of “adverse effect” under Section 106 of the National Historic Preservation Act. As such, the project will not result in a *de minimis* impact as that term is defined by Section 4(f).

7.0 AVOIDANCE ALTERNATIVES

When a proposed project will result in a Section 4(f) use of a protected resource that is not *de minimis*, FTA is required to determine whether a feasible and prudent avoidance alternative exists. If no prudent and feasible avoidance alternative exists, the project must include all possible planning to minimize harm to the site (49 U.S.C. 303(c)(2)). If all project alternatives evaluated will use one or more Section 4(f) resources, FTA must select the project alternative that causes the least overall harm in light of the statute’s preservation purpose.

FTA’s Section 4(f) regulation defines a feasible and prudent avoidance alternative as one that avoids using Section 4(f) properties and does not cause other “severe problems of a magnitude that substantially outweighs the importance of protecting the Section 4(f) property” (23 CFR 774.17). In consideration of the importance of protecting the Section 4(f) property, it is appropriate to consider the relative value of the resource to the preservation purpose of the statute. An alternative is not feasible or prudent if:

1. It cannot be built as a matter of sound engineering judgment;
2. It compromises the project to a degree that it is unreasonable to proceed with the project in light of its stated purpose and need;
3. It results in unacceptable safety or operational problems;
4. After reasonable mitigation, it still causes:
 - a. Severe social, economic, or environmental impacts;
 - b. Severe disruption to established communities;
 - c. Severe disproportionate impacts to minority or low-income populations; or
 - d. Severe impacts to environmental resources protected under other Federal statutes;
5. It results in additional construction, maintenance, or operational costs of an extraordinary

magnitude;

6. It causes other unique problems or unusual factors; or

7. It involves multiple factors in paragraphs (2) through (6), that while individually minor, cumulatively cause unique problems or impacts of extraordinary magnitude.

7.1 Development of Alternatives

The planning process for facility upgrades to the Northern Bus Garage included both the *2015 Metrobus Facilities Plan Study* and the *2018 Metrobus Facility Plan*. These studies reviewed the needs and current capacity constraints of existing bus operating and maintenance facilities, assessed the physical conditions of garages, identified shortcomings, and addressed recommendations for capital improvements. Recommendations addressed short, medium, and long-term investment needs based on projected changes to fleet size, technology, composition, service growth, and plans for structural and/or locational changes to operating divisions.

The Northern Bus Garage, located on Fourteenth Street, NW, between Buchanan Street, NW, and Decatur Street, NW, in Washington, DC, previously operated as one of the four WMATA facilities that stores and maintains articulated buses. These types of facilities serve as a WMATA operating base, performing day-to-day maintenance functions, although heavy maintenance functions were not conducted at Northern Bus Garage at the time it ceased operations. The Northern Bus Garage has a current capacity for 175 total buses that can accommodate 155 standard buses and 20 articulated buses, including a total of 13 maintenance bays, two of which were used for articulated buses.

For the Northern Bus Garage to fulfill its mission and meet safety protocols upon restarting operations, WMATA has identified the following major project needs:

1. Service bays to accommodate articulated buses, which would allow the division to better serve nearby downtown routes;
2. Structural column spacing to support 14' minimum stall width;
3. Place service lanes on level paving so as to minimize the risk of rolling buses;
4. Minimize the number of access points along the perimeter to allow for proper access control;
5. Design the facility with counter-clockwise circulation for better operators' visibility while turning;
6. Modifications necessary for accommodating the use of electric propulsion buses; and
7. Minimize the number of level changes within bus circulation and parking areas.

These needs are generally documented in WMATA's *2015 Metrobus Facilities Plan Study* "Technical Memo 2 – Identification of Needs" (August 2016) and in WMATA's *2018 Metrobus Facility Plan*. WMATA's goals for rehabilitation of the Northern Bus Garage will better facilitate its needs for modernization, sustainability, increased community integration, and flexibility for use by both electric buses and diesel buses.

FTA is required to consider alternatives that completely avoid a "use" of Section 4(f) properties. WMATA has conducted analysis to identify potential *feasible and prudent avoidance alternatives*. Three such potential alternatives were identified:

1. No Action Alternative (the no-build alternative);
2. Relocating Northern Bus Garage to the grounds of Walter Reed Army Medical Center; and
3. Relocating Northern Bus Garage to the grounds of the Armed Forces Retirement Home.

Given the challenges associated with moving the bus facility to a site further removed from the existing bus

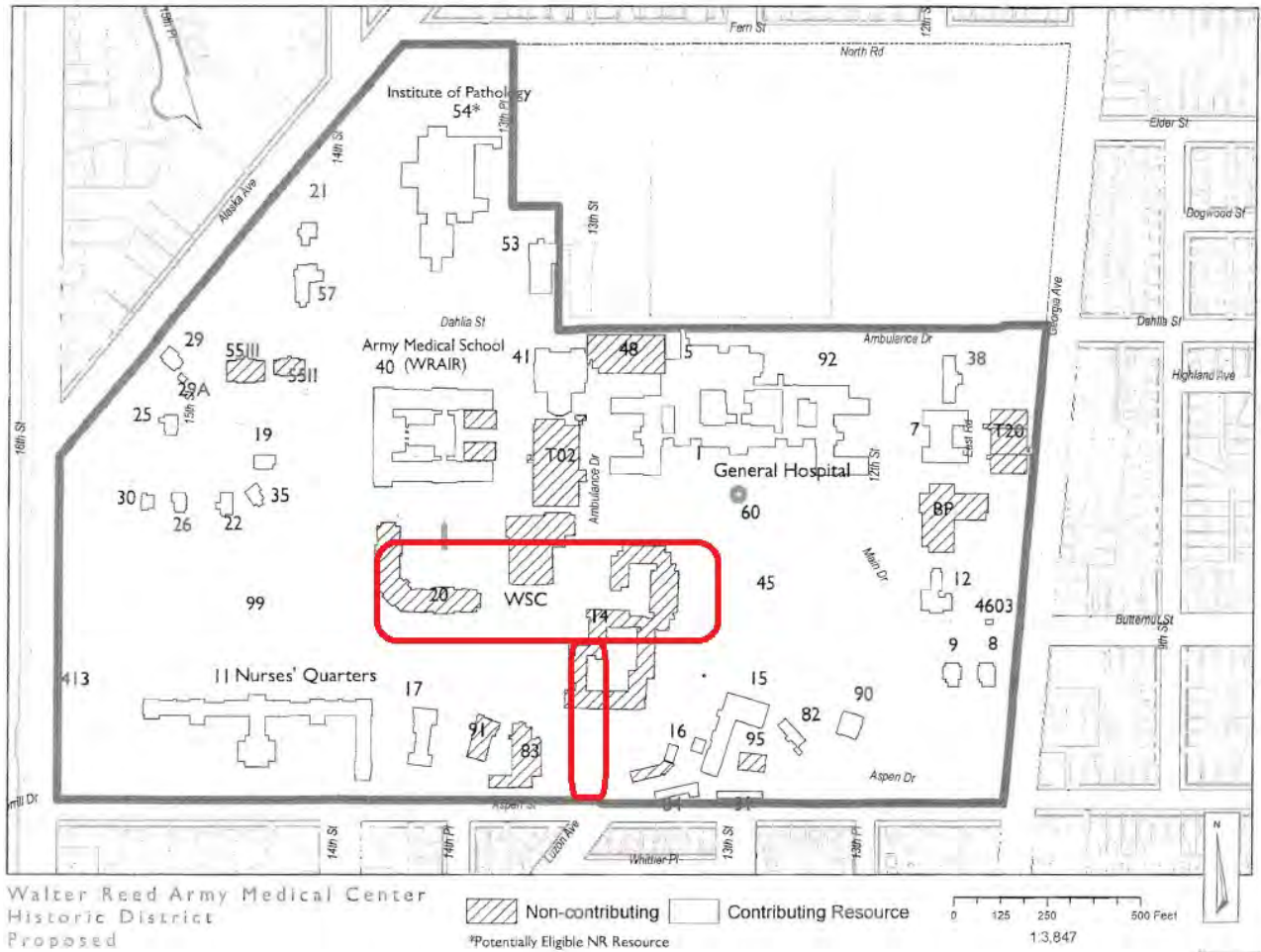
routes, WMATA also evaluated the area surrounding the existing Northern Bus Garage location for other potential avoidance alternative sites. The areas nearer to the existing Northern Bus Garage, however, are highly developed, consisting primarily of either public parks or potentially historic residential and commercial buildings. Siting a facility large enough to accommodate WMATA's needs any closer than the potential avoidance alternatives detailed below would require either the use of a public park or demolition of buildings potentially eligible for the National Register of Historic Places, making that alternative not an avoidance alternative, as required by Section 4(f).

7.2 No Action Alternative

The No Action Alternative, which would involve the continuation of re-routing of bus service to other bus facilities, would not result in a use of any Section 4(f) properties, including the Capital Traction Company Car Barn, which would be retained in its current state. The No Action Alternative would not provide any necessary changes to the Northern Bus Garage needed to accommodate bus capacity improvements nor improve the physical and environmental conditions of the building. Thus, the No Action Alternative will not meet any aspect of the project's needs. Continuing to re-distribute bus service previously housed at Northern Bus Garage to other WMATA bus divisions rather than rehabilitating and reopening Northern Bus Garage at its current location would require the continued extended travel distance for approximately two dozen bus routes each day (entailing hundreds of bus trips throughout the day) through dense, residential neighborhoods, leading to noise, traffic congestion, and vibration over much larger areas than if those bus routes only needed to travel to the Northern Bus Garage facility, especially since travel to and from established routes would be at a higher average speed given that the buses would not be making stops along the path of travel. Cumulatively, the effect of longer distances for hundreds of trips each day over many years would result in the types of "severe social, economic, or environmental impacts" that cause an avoidance alternative to not be considered "prudent" under Section 4(f). Moreover, this alternative would severely limit the ability of WMATA to implement electric bus service, given the need for a location for battery recharging near the destinations being served. Thus, because the No Action Alternative would cause severe social, economic, environmental impacts; would result in unacceptable operational problems; and would not meet any aspect of the project's needs, it cannot be identified as a feasible and prudent avoidance alternative.

7.3 Walter Reed Army Medical Center Site

The 2015 *Metrobus Facilities Plan Study* investigated the feasibility of relocating Northern Bus Garage to the grounds of Walter Reed Army Medical Center at 6900 Georgia Ave., NW, Washington, DC. This alternative would result in the construction of a new facility at a new site to accommodate the project's needs. Although the Walter Reed Army Medical Center is listed as a historic district in the NRHP, there are a number of non-contributing structures in the center of the site (see shaded structures with red overlay of a potential bus facility and access road in Figure 7-1), including the former enlisted barracks, just to the north of where Luzon Ave., NW, intersects with Aspen St., NW. Demolition of several of those structures would provide sufficient space for a new bus facility, with a sufficient buffer from contributing structures on the site to ensure that proximity impacts from the facility would not cause a constructive use.

Figure 7-1: Avoidance Alternative at Walter Reed Army Medical Center Site

Given its location in the center of the site, demolition of only the former enlisted barracks, the largest non-contributing structure on the site, would be necessary to provide space for WMATA's needs. The former enlisted barracks are currently used as affordable housing for seniors and formerly homeless veterans, with approximately 200 units. See Press Release, Executive Office of the Mayor, District of Columbia, July 16, 2018. Thus, choosing this location would require demolition of approximately 200 affordable housing units and displacement of its residents, which would constitute "[s]evere social . . . impacts," "[s]evere disruption to established communities," and "severe disproportionate impacts to . . . low income populations," factors that make an avoidance alternative not prudent per 23 CFR 774.17.

Relocating Northern Bus Garage to the Walter Reed Army Medical Center site rather than rehabilitating and reopening it would also require the continued extended travel distance for approximately two dozen bus routes each day (entailing hundreds of bus trips throughout the day) through dense, residential neighborhoods, leading to noise, traffic congestion, and vibration over much larger areas than if those bus routes only needed to travel to the Northern Bus Garage facility, especially since travel to and from established routes would be at a higher average speed given that the buses would not be making stops along the path of travel. Cumulatively, the effect of longer distances for hundreds of trips each day over many years would result in the types of "severe social, economic, or environmental impacts" that cause an

avoidance alternative to not be considered “prudent” under Section 4(f). Moreover, this location would severely limit the ability of WMATA to implement electric bus service, given the need for a location for battery recharging near the destinations being served. The *2018 Metrobus Facilities Plan* confirmed that the location and capacity of the Northern Bus Garage relate directly to the operation of major bus lines that serve high-capacity downtown bus routes, particularly the 50s line, which operates along Fourteenth Street. Relocating these operations away at a great distance would result in exactly the type of “unacceptable . . . operational problems” envisioned by the Section 4(f) regulation, given the buses it serves from high demand routes in central DC. The *2015 Metrobus Facilities Plan Study* estimated that relocating facility operations to this site would also increase annual operating costs by 47%, proving too expensive to operate, especially when multiplied over decades of anticipated service. See *2015 Metrobus Facilities Plan Study* (Technical Memo #4, August 2016, Page 5).

Thus, because the Walter Reed Army Medical Center alternative would cause severe social, economic, environmental impacts; would cause severe disruption to established communities; would create severe disproportionate impacts to a low-income population; would result in unacceptable operational problems; and would result in additional maintenance and operational costs of an extraordinary magnitude, this alternative would not be a feasible and prudent avoidance alternative.

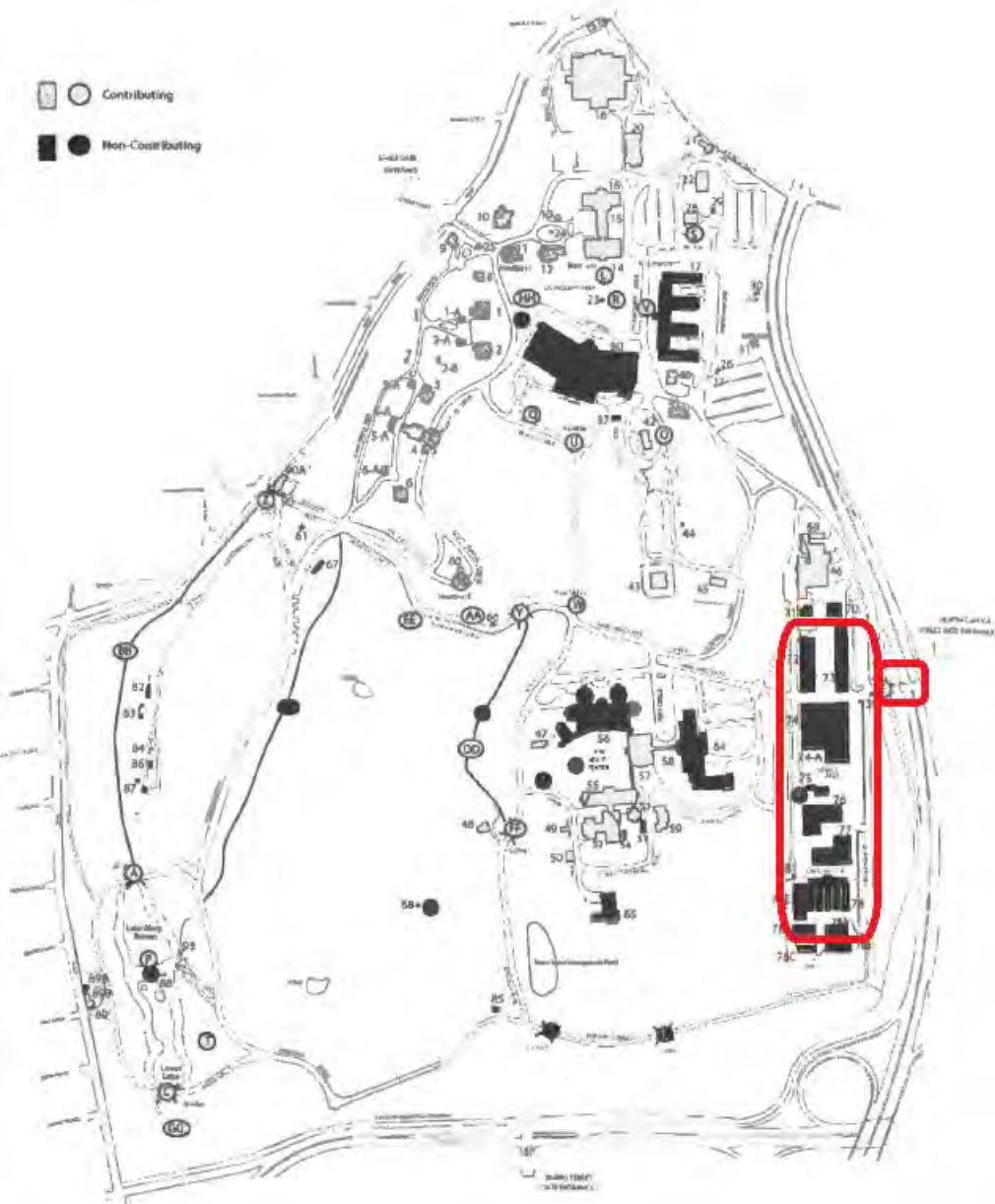
7.4 Armed Forces Retirement Home Site

WMATA’s *2015 Metrobus Facilities Plan Study* also explored the option of relocating Northern Bus Garage to the Armed Forces Retirement Home site located at 3700 N Capitol St. NW, Washington, DC. This alternative would result in the construction of a new facility at a new site to accommodate the project’s needs. Although the Armed Forces Retirement Home site is listed as a historic district in the NRHP, the eastern edge of the site contains only non-contributing structures, landscapes, gates, and roads, allowing sufficient space for a facility large enough to meet WMATA’s needs with a sufficient buffer to ensure proximity impacts would not result in a constructive use (see Figure 7-2 denoting the location of a bus facility on the site that would avoid contributing structures).

As with the Walter Reed Army Medical Center Avoidance Alternative, however, relocating Northern Bus Garage to the Armed Forces Retirement Home site rather than rehabilitating and reopening it at its current location would also require the continued extended travel distance for approximately two dozen bus routes each day (entailing hundreds of bus trips throughout the day) through dense, residential neighborhoods, leading to noise, traffic congestion, and vibration over much larger areas than if those bus routes only needed to travel to the Northern Bus Garage facility, especially since travel to and from established routes would be at a higher average speed given that the buses would not be making stops along the path of travel. Cumulatively, the effect of longer distances for hundreds of trips each day over many years would result in the types of “severe social, economic, or environmental impacts” that cause an avoidance alternative to not be considered “prudent” under Section 4(f). Moreover, this location would severely limit the ability of WMATA to implement electric bus service, given the need for a location for battery recharging near the destinations being served. The *2018 Metrobus Facilities Plan* confirmed that the location and capacity of the Northern Bus Garage relate directly to the operation of major bus lines that serve high-capacity downtown bus routes, particularly the 50s line, which operates along Fourteenth Street. Relocating these operations away at a great distance would result in exactly the type of “unacceptable . . . operational problems” envisioned by the Section 4(f) regulation, given the buses it serves from high demand routes in central DC. The *2015 Metrobus Facilities Plan Study* estimated that relocating facility operations to this site would also increase annual operating costs by 30%, proving too expensive to operate, especially when multiplied over

decades of anticipated service. See *2015 Metrobus Facilities Plan Study* (Technical Memo #4, August 2016, Page 5).

Figure 7-2: Avoidance Alternative at Armed Forces Retirement Home Site



Thus, because the Armed Forces Retirement Home Site alternative would cause severe social, economic, environmental impacts; would result in unacceptable operational problems; and would result in additional maintenance and operational costs of an extraordinary magnitude, this alternative would not be a feasible and prudent avoidance alternative.

Table 7-1 provides a summary of the evaluation the avoidance alternatives based on the prudence and feasibility criteria addressed in 23 CFR 774.17.

Table 7-1: Avoidance Alternative Summary Analysis

Alternative	Infeasible (in terms of sound engineering)	Compromises the Project's Needs	Causes Safety or Operational Problems	Causes Environmental/Community Impacts	Results in Excessive Operational Costs	Causes Unique Problems	Causes Cumulative Impacts
No Action	No	Yes	Yes	Yes	Yes	No	No
Walter Reed Army Medical Center	No	No	Yes	Yes	Yes	No	Yes
Armed Forces Retirement Home	No	No	Yes	Yes	Yes	No	Yes

8.0 PLANNING UNDERTAKEN TO MINIMIZE HARM

When there is no feasible and prudent alternative to the use of a Section 4(f) resource, the Project must include all possible planning to minimize harm to the Section 4(f) property. This section provides a summary of the planning efforts undertaken to minimize harm to Section 4(f) resources that cannot be avoided. These planning efforts have included WMATA's consultation under Section 106 of the National Historic Preservation Act, local design review, and mitigation measures to minimize harm and resolve adverse effects to the historic building (the Section 106 and local design review are discussed more fully below in Section 9.0, Coordination and Consultation). **Table 8-1** provides a summary of the expected uses and proposed mitigation.

FTA initiated Section 106 consultation with the DC SHPO on April 19, 2019. Since the proposed replacement of the Northern Bus Garage is being partly funded by the FTA, the project requires compliance with Section 106 of the National Historic Preservation Act. That process included the development of minimization and mitigation measures designed to protect and restore historic features and materials of the Car Barn. WMATA has already identified and documented the remaining historic fabric of the building, including both interior and exterior spaces, and developed concept designs that will restore the Fourteenth Street facade. WMATA will also retain portions of the north and south elevations of the Car Barn. WMATA will set back the new construction from the wings, separating the new construction from the original form of the Car Barn, which will allow it to read like a historic building rather than a mere façade. Original windows and roofing removed and replaced with non-historic materials in twentieth century renovations will be restored to the historic appearance. The arcade openings and tower will also be preserved. The cumulative result of these measures will be to enhance the design characteristics of the principal façade that have primarily contributed to the building's significance for architectural design.

364 **Table 8-1: Mitigation for Impacts to Section 4(f) Resources**

Section 4(f) Resource	Mitigation
Capital Traction Company Car Barn	<ul style="list-style-type: none"> • Analysis and documentation of historic fabric • Restoration of the primary Fourteenth Street elevation • Replacement of the non-historic roofing materials for the Car Barn with historically appropriate materials • Replacement of non-historic windows of the Car Barn with historically more appropriate windows and materials • Design of the newly constructed wings to be compatible with the historic building by echoing the horizontal belt courses and rhythm of its windows, and by employing materials that are similar in color and texture to the stone details of the streetcar barn • Setbacks for newly constructed wings to accent the historic building • Other measures as negotiated by WMATA, FTA, DC SHPO, and other consulting parties to address adverse effects

365 A full range of mitigation measures will be executed as part of an MOA under Section 106.

366 9.0 COORDINATION AND CONSULTATION

367 The lead Federal agency, project sponsor, and cooperating and participating agencies all have defined
 368 opportunities for meaningful participation in the decision-making process for the project, including review and
 369 comment on the Section 4(f) evaluation.

370 FTA is the lead Federal agency and WMATA is the project owner, sponsor, and joint lead agency for the
 371 Northern Bus Garage project. The DCSHPO is also considered an official with jurisdiction in terms of Section 4(f)
 372 regulations. WMATA and FTA have coordinated with the DC SHPO during the entirety of the Section 4(f)
 373 evaluation. FTA's Section 4(f) regulation (23 CFR 774.5) states that prior to making Section 4(f) approvals, the
 374 Section 4(f) evaluation shall be provided for coordination and comment to the official(s) with jurisdiction. FTA
 375 is responsible for soliciting and considering the comments of official(s) with jurisdiction over the Section 4(f)
 376 property, as part of the administration of Section 4(f).

377 The Section 4(f) evaluation must also be submitted to the DOI. FTA initiated Section 106 consultation on the
 378 undertaking with the DC SHPO in a letter dated April 16, 2019. Enclosed with the letter were the 2018
 379 *Metrobus Facilities Plan* along with project plans. The correspondence and report included a recommended
 380 APE and determined this undertaking would likely be an adverse effect to the NRHP-listed Capital Traction
 381 Company Car Barn. WMATA and FTA requested concurrence with the APE based on review and comment on
 382 the submitted materials and plans. The DC SHPO concurred the Action Alternative would have an adverse
 383 effect on the Capital Traction Company Car Barn in a letter dated May 16, 2019. In addition, the DC SHPO noted
 384 the entire building is listed in the NRHP and is a designated DC Historic Landmark. The DC SHPO also suggested
 385 that consultation and efforts to minimize the effects continue, which led to initiating the Historic Fabric
 386 Analysis and the consulting party coordination.

387 As part of the initiation of consultation, notification letters were also sent out to organizations that were
 388 considered potential consulting parties due to their interest in the preservation of historic properties.

Notification of the project and a basic project description was provided, along with the concept site plan with draft APE determination. Recipients were the National Capital Planning Commission, the DC Preservation League, and the Advisory Neighborhood Commission, ANC-4C. After consulting parties were identified, they were asked to comment on the undertaking's potential to affect historic properties. No responses or comments were received. The consulting parties and the public were also invited to provide comment at the ANC-4C meetings and at a meeting of the DC Historic Preservation Review Board (HPRB). FTA worked with Consulting Parties, DC SHPO, and WMATA to develop and execute a Memorandum of Agreement (MOA) to document activities required for the mitigation of adverse effects. The executed MOA, effective December 20, 2021, is attached at the conclusion of this evaluation.

A consultation and site inspection with WMATA, FTA, and the DC SHPO occurred in July 2019. The walk-through was conducted of the entire building identifying the locations of historic fabric. The DC SHPO requested documentation of remaining historic fabric, dating from the period of significance (1906-1959). It further suggested that opportunities to restore historic fabric be identified. To this end, WMATA's consultants have prepared a historic materials analysis report. FTA informed the ACHP of the adverse effect determination in July 2019, inviting the ACHP to participate in continuing consultation. The ACHP declined to participate.

Further consultation between WMATA, FTA, and the DC SHPO has occurred as a result of changing concept plans. During the efforts to conduct public outreach, both the Sixteenth Street Neighborhood Association and the Uptown Main Street organization requested the DC SHPO and FTA grant them consulting party status under 36 CFR Part 800, which FTA did.

Pursuant to local law, WMATA is required to engage in local design consultation with HPRB to minimize design impacts on the surrounding neighborhood. This design review addressed, but was not limited to:

- a. Ensuring all structural and operational changes meet the purpose and need of the project;
- b. Ensuring aesthetic treatment of building additions and alterations meet the Secretary of the Interior's Standards for Treatment of Historic Properties;
- c. Landscape design within the limits of disturbance for the project; and
- d. Installation of signage or lighting necessitated by the project.

WMATA presented its concept design before the DC HPRB during its May 28, 2020, virtual meeting. At this meeting, members of the community engaged the HPRB requesting a further refinement of the concept design to ensure better compatibility with the residential neighborhood. HPRB supported these views and asked WMATA to work with both the DC SHPO and neighborhood groups to further refine their designs. WMATA invited the public to provide comment at ANC meetings to review the proposed concept designs.

HPRB determined the proposed demolition is inconsistent with the purposes of the DC Historic Landmark and Historic District Protection Act and directed WMATA to proceed to a hearing before the DC Mayor's Agent. The Mayor's Agent rules on the basis of specific criteria stated in the DC historic preservation law. To approve an application for permit or subdivision, the Mayor's Agent must find that approval was necessary in the public interest or that failure to approve the application would result in unreasonable economic hardship to the owner.

The phrase "necessary in the public interest" means consistent with the purposes of the preservation law or necessary to allow the construction of a project of special merit. Special merit means that a project provides significant benefits to the District or to the community by virtue of exemplary architecture, specific features of land planning, or social or other benefits having a high priority for community services.

The Mayor's Agent has the final authority to determine what is in the public interest under the DC historic preservation law. The Mayor's Agent reviews cases through regularly scheduled public hearings. During these public hearings, the Mayor's Agent will consider not just the recommendations of the HPRB, which are limited to issues of historic preservation and design compatibility, but also economic and planning factors that may impact the continual use of historic landmarks. The public hearing for this project was held on March 26, 2021. The hearing provided for community participation and comment on the broader concerns relevant to the Mayor's Agent's decision. On September 17, 2021, the Mayor's Agent rendered a decision that demolition may proceed for this project, ruling that "[t]he public benefits from the renovation easily exceed the limited preservation losses." Mayor's Agent Decision (HPA No. 20-469). After the case was sent back to HPRB for final design consultation, HPRB approved it on October 28, 2021.

10.0 SECTION 4(F) DETERMINATION

As described in **Section 6.0**, the Preferred Alternative for the WMATA Northern Bus Garage Renovation Project would result in the use of the following Section 4(f) property:

- The Capital Traction Company Car Barn

The project will not result in the use (including constructive or *de minimis*) of any other Section 4(f) properties. FTA has determined that there is no prudent or feasible avoidance alternative to the use of the Capital Traction Company Car Barn, as described in **Section 7.0**. As described in **Section 8.0**, WMATA will minimize and mitigate the harm to the Section 4(f) property through implementing the measures of the Section 106 MOA.

**MEMORANDUM OF AGREEMENT
AMONG
THE FEDERAL TRANSIT ADMINISTRATION,
THE DISTRICT OF COLUMBIA STATE HISTORIC PRESERVATION OFFICER
AND
THE WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY
REGARDING
THE NORTHERN BUS GARAGE RENOVATION PROJECT IN
WASHINGTON, DC**

WHEREAS, the Federal Transit Administration (FTA) plans to provide financial assistance to the Washington Metropolitan Area Transit Authority (WMATA) for the proposed renovation of the Northern Bus Garage, historically known as the Capital Traction Company Car Barn, which is listed on the National Register of Historic Places (NRHP; NR# 13000290, May 22, 2013) (Undertaking) and located at 4701 14th Street, NW; and

WHEREAS, the Northern Bus Garage Renovation Project (Project) consists of the stabilization, restoration, and preservation of the portions of the Northern Bus Garage along 14th Street, NW, including the administration offices and tower, and historic walls on the north and south ends of the building; the demolition of the remaining portions of the historic building and later, non-historic additions; and replacement of the demolished portions with a new building that will be connected to the preserved historic building; and

WHEREAS, FTA has consulted with the District of Columbia State Historic Preservation Officer (DC SHPO) regarding the Undertaking in accordance with 36 CFR Part 800, the regulations implementing Section 106 of the National Historic Preservation Act (54 U.S.C. § 306108); and

WHEREAS, FTA in consultation with the DC SHPO has determined the Undertaking's Area of Potential Effects (APE), as defined in 36 CFR § 800.16(d), as including the entirety of the Northern Bus Garage footprint, and approximately one block of residential or commercial structures along (clockwise starting north) Decatur Street NW, Iowa Avenue NW, Arkansas Avenue NW, Buchanan Street NW, and 14th Street NW, and viewsheds from the intersections of Crittenden Street NW and 15th Street NW facing east, Decatur Street NW, and 15th Street NW facing east, as depicted in Attachment 1; and

WHEREAS, FTA and DC SHPO have applied the criteria of adverse effect pursuant to 36 CFR § 800.5 and determined that the Undertaking will have an adverse effect on the Northern Bus Garage because it will result in the destruction of part of the historic building; and

WHEREAS, WMATA, as a recipient of Federal assistance for the Project, is a consulting party in the Section 106 process pursuant to 36 CFR § 800.2(c)(4) with a responsibility for implementing the terms of this Memorandum of Agreement (MOA) and is invited to sign this MOA as an invited signatory pursuant to 36 CFR § 800.6(c)(2); and

WHEREAS, FTA and DC SHPO invited Uptown Main Street, the Sixteenth Street Neighborhood Association, the Northern Busbarn Neighbors, DC Advisory Neighborhood Commission (ANC) 4C02 and ANC 4C03 to be consulting parties pursuant to 36 CFR § 800.2(c)(5), and consulted with them regarding the effects of the Undertaking on historic properties; and

WHEREAS, in accordance with 36 CFR § 800.6(a)(1), FTA has notified the Advisory Council on Historic Preservation (ACHP) of its adverse effect determination with specified documentation, and the ACHP declined to participate in the consultation pursuant to 36 CFR § 800.6(a)(1)(iii);

NOW, THEREFORE, FTA, the DC SHPO, and WMATA (henceforth referred to as the Signatories) agree that the Undertaking shall be implemented in accordance with the following stipulations in order to take into account the effects of the Undertaking on historic properties.

STIPULATIONS

FTA and WMATA shall ensure that the following measures are implemented.

I. IMPLEMENTATION OF DESIGN PLANS

WMATA will construct the Project according to the design plans included in Attachments 2, 3, and 4. These design plans were determined to be the preferred design through robust Section 106 consultation and public outreach to ensure the following items are met:

- A. New construction illustrated in Attachment 2 will be compatible with the historic Northern Bus Garage; will incorporate projecting and receding elements to decrease the monolithic nature of the new structure along Arkansas and Iowa avenues; and use cladding material and visual patterning to further “break down the scale” of the new building, especially near building entrances and garage doors.
- B. Restoration work will be informed by the *Identification of Historic Fabric Report* included in Attachment 3 and implemented in accordance with the plans and narrative scope of work included in Attachment 4 to ensure that historic fabric from the 1906 to 1959 NRHP Period of Significance will be preserved and the historic portions of the Northern Bus Garage will remain prominent features of the overall Northern Bus Complex. Restoration work includes, but is not limited to, preserving and repairing existing historic fabric, restoring elevation elements that have been replaced with inappropriate elements, replacing inappropriate 1980s windows with historically appropriate replacement windows, and preserving and restoring historic sections of the north and south walls and the original smokestack. As part of its on-going review for DC building permits, the DC SHPO may require minor revisions to the plans in Attachment 4.

II. INSTALLATION OF REPLICA STREETCAR TRACKS

To illustrate and highlight the Northern Bus Garage's original function as a streetcar car barn, WMATA shall install replica streetcar tracks in the area where streetcars used to enter and/or exit from the building along 14th Street, NW, as shown in Attachment 5. If the District Department of Transportation's (DDOT) Public Space Committee does not approve streetcar tracks extending through public space to 14th Street, NW, WMATA will provide information to document the Public Space Committee's decision, and may revise the plans in Attachment 5 to limit the streetcar tracks to WMATA-owned property. Regardless of their extent, the tracks shall be ADA compliant and avoid tripping hazards. The replica streetcar tracks will be installed as part of building construction project and will be fully installed within one week of issuance of the building occupancy permit.

III. INTERPRETIVE SIGNAGE EXHIBITS

- A. In consultation with the DC SHPO and consulting parties, WMATA shall develop and install one (1) to three (3) exterior interpretive signage exhibits and up to five (5) interior interpretive signage exhibits for the building's community room as described in Attachment 6. The exterior interpretive signage exhibits shall focus on the historical and architectural characteristics that qualify the Northern Bus Garage for listing in the NRHP and explain the replica streetcar tracks described in Stipulation II above. The interior community room exhibits may focus on broader historical themes that relate to the role the Northern Bus Garage played in the development of the surrounding neighborhood and community, including, but not limited to, topics such as African-American history, commercial development, and social history.
- B. In developing topics and materials for the interior interpretive signage exhibits, WMATA shall solicit initial input from consulting parties and DC SHPO. WMATA will reach out to additional groups or individuals who are knowledgeable about community history as appropriate in developing the content for the exhibits, as described in Attachment 6.
- C. WMATA, in consultation with DC SHPO and FTA, will determine which topics will be pursued further, based on input received through outreach described in Stipulation III.B. and Attachment 6, and decide how many exhibits will ultimately be installed.
- D. WMATA shall provide full color digital drafts of all exterior interpretive signage exhibits and interior interpretive signage exhibits to the consulting parties and DC SHPO for review and comment in accordance with Attachment 6.
- E. Once the content, design, and location are approved by DC SHPO in writing, WMATA shall prepare and install the signage in the approved locations within thirty days of issuance of the building occupancy permit.

IV. REVISIONS TO THE PROJECT

If WMATA refines the design of the Project in a manner that may result in additional or new effects on historic properties, WMATA will notify FTA and the DC SHPO of such changes. Before WMATA takes any Project action that may result in additional or new effects on historic properties, WMATA, FTA, and DC SHPO will consult to determine the appropriate course of action.

V. UNANTICIPATED DISCOVERIES

A. Archaeological Resources and Human Remains

1. In the event that a previously unidentified archaeological resource and/or suspected human remains are discovered during ground disturbance activities, all construction work involving subsurface disturbance will be halted in the area of the resource and in the surrounding area where further subsurface remains can reasonably be expected to occur.
2. WMATA shall notify the DC SHPO's District Archaeologist in writing via email and by telephone immediately.
3. The DC SHPO's District Archaeologist shall conduct a site visit within two working days (48 hours), if possible.
4. DC SHPO will contact the Metropolitan Police Department (MPD) and the DC Office of the Chief Medical Examiner (OCME) if suspected human remains are present per OCME protocols under DC Statute DC ST S 5-1406.
5. WMATA, FTA, and DC SHPO will consult to determine whether the resource is eligible for listing in the NRHP, and if so, whether adverse effects can be avoided or minimized.
6. If the resource is determined NRHP-eligible and adverse effects cannot be avoided, WMATA will propose a Treatment Plan to mitigate adverse effects. Upon concurrence by DC SHPO and FTA on the effects and Treatment Plan, WMATA will carry out the Treatment Plan.
7. Documentation, evaluation, and execution of the Treatment Plan will be undertaken by archaeology professionals meeting the requirements of Stipulation VI, comply with District guidelines for archaeology, and be conducted according to an archaeological work plan approved by the DC SHPO.

B. Architectural and Historic Built Environment Resources

1. If, in the course of implementing the Project, unforeseen and potentially adverse effects occur to above-ground historic properties within the APE, WMATA shall immediately

halt all construction work within fifty (50) feet of the unforeseen effect and take all reasonable measures to avoid or minimize further unforeseen effects. WMATA shall notify FTA and DC SHPO of the issue as soon as practicable, but no later than 3 days following the unforeseen effect.

2. WMATA shall ensure that an architectural historian or historic architect meeting the requirements of Stipulation VI investigates the work site and the historic property within seven (7) days. Following the investigation, WMATA shall forward to FTA and DC SHPO an Assessment of Effects Report to the historic property and proposed Treatment Plan to resolve any adverse effects on historic properties. Upon agreement with the Effects Report and Treatment Plan by DC SHPO and FTA, WMATA will carry out the Treatment Plan.
3. At the conclusion of this consultation, WMATA will provide all parties that participated in the discovery consultation a written summary of the consultation and its resolution. This summary may be transmitted to the participants via e-mail.

VI. PROFESSIONAL QUALIFICATIONS

WMATA shall ensure that all historic preservation and archaeological work performed by WMATA or on its behalf pursuant to this MOA shall be accomplished by or under the direct supervision of a person or persons who meet(s) or exceed(s) the pertinent qualifications in the Secretary of the Interior's Professional Qualification Standards (48 FR 44738-9) in those areas in which the qualifications are applicable for the specific work performed.

VII. MONITORING AND REPORTING

Each year following the execution of this MOA until it expires, is fulfilled, or is terminated, WMATA shall provide the signatories a summary report detailing work undertaken pursuant to the MOA. Such report shall include a summary and update on work being carried out in accordance with relevant stipulations, any scheduling changes proposed, any problems encountered, any disputes or objections received, and related topics. WMATA shall provide the annual report to the Signatories on or before the date of execution of the MOA.

VIII. DISPUTE RESOLUTION

Should any Signatory object at any time to any actions proposed or the manner in which the terms of this MOA are implemented, FTA shall notify the other Signatories and consult with such party to resolve the objection. If FTA determines that such objection cannot be resolved, FTA will:

- A. Forward all documentation relevant to the dispute, including FTA's proposed resolution, to the ACHP. The ACHP shall provide FTA with its advice on the resolution of the objection within thirty (30) calendar days of receiving adequate documentation. Prior to reaching a final decision on the dispute, FTA shall prepare a written response that takes into account any timely advice or comments regarding the dispute from the ACHP and

signatories and provide them with a copy of this written response. FTA will then proceed accordingly.

- B. If the ACHP does not provide its advice regarding the dispute within the 30-day time period, FTA may make a final decision on the dispute and proceed accordingly. Prior to reaching such a decision, FTA shall prepare a written response that takes into account any timely comments regarding the dispute from the Signatories and provide the Signatories and the ACHP with a copy of such written response.
- C. FTA and WMATA's responsibility to carry out all other actions subject to the terms of this MOA that are not the subject of the dispute remains unchanged.

IX. AMENDMENTS

This MOA may be amended when such an amendment is agreed to in writing by all Signatories. The amendment will be effective on the date a copy signed by all Signatories parties is filed with the ACHP. Revisions to any Appendix to this MOA determined to be non-substantive by the Signatories will not require an amendment to the MOA but must be agreed to in writing by the Signatories.

X. TERMINATION

If any Signatory determines that the terms of this MOA will not or cannot be carried out, that party shall immediately consult with the other Signatories to attempt to develop an amendment per Stipulation IX, above. If within 30 days, or another timeframe agreed to by all Signatories, agreement on an amendment cannot be reached, any Signatory may terminate the MOA upon written notification to other Signatories.

If the MOA is terminated, and prior to work continuing on the Undertaking, FTA must either: (a) execute another MOA pursuant to 36 CFR § 800.6; or (b) request, take into account, and respond to the comments of the ACHP pursuant to 36 CFR § 800.7. FTA shall notify the signatories as to the course of action it will pursue.

XI. GENERAL PROVISIONS

- A. Counterparts; Electronic Signature
This MOA may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. This MOA may be signed electronically.
- B. Distribution of MOA
Within one (1) week of the last signature on this MOA, FTA shall provide each Signatory and consulting party with one high quality, legible, full color, electronic copy of the fully-executed MOA and all of its attachments integrated into a single document. Internet links will not be used as a means to provide copies of attachments since links to web-based

information often change. If the electronic copy is too large to send by e-mail, WMATA shall provide a copy of this MOA as described above, on a flash drive, compact disc, or other suitable, electronic means.

XII. DURATION

This MOA will expire if its terms are not carried out within ten (10) years from the date of execution, or when FTA determines that all stipulations have been satisfactorily fulfilled. WMATA shall notify FTA when the project is completed and there are no further opportunities for unanticipated discoveries as described in Stipulation V above. Prior to expiration, FTA may consult with the Signatories to reconsider the terms of the MOA and amend it in accordance with Stipulation IX.

Execution of this MOA and implementation of its terms evidences that FTA has taken into account the effects of the Undertaking on historic properties and afforded the ACHP an opportunity to comment.

**SIGNATURE PAGE
MEMORANDUM OF AGREEMENT
REGARDING
THE NORTHERN BUS GARAGE RENOVATION PROJECT
WASHINGTON, DC**

SIGNATORY

FEDERAL TRANSIT ADMINISTRATION

By: _____

Date: _____

Terry Garcia-Crews
Regional Administrator, Region III

**SIGNATURE PAGE
MEMORANDUM OF AGREEMENT
REGARDING
THE NORTHERN BUS GARAGE RENOVATION PROJECT
WASHINGTON, DC**

SIGNATORY

DISTRICT OF COLUMBIA STATE HISTORIC PRESERVATION OFFICER

By: 

Date: 12/15/2021

David Maloney
District of Columbia State Historic Preservation Officer

**SIGNATURE PAGE
MEMORANDUM OF AGREEMENT
REGARDING
THE NORTHERN BUS GARAGE RENOVATION PROJECT
WASHINGTON, DC**

INVITED SIGNATORY

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

By: Andrew Off
E013349 WMATA

Digitally signed by Andrew
Off E013349 WMATA
Date: 2021.12.10 09:57:04
-05'00'

Date: _____

Andrew B. Off
Executive Vice President, Capital Project Delivery

LIST OF ATTACHMENTS

Attachment 1: Area of Potential Effects

Attachment 2: Building Elevations and Perspective Views

Attachment 3: WMATA Northern Bus Garage: Identification of Historic Fabric Report

Attachment 4: Restoration Narrative Scope of Work, Elevations and Plans

Attachment 5: Plans for Replica Streetcar Track Installation

Attachment 6: Interpretive Signage Exhibits

ATTACHMENT 1
AREA OF POTENTIAL EFFECTS
NORTHERN BUS GARAGE RENOVATION PROJECT
MEMORANDUM OF AGREEMENT



Area of Potential Effects —————

ATTACHMENT 2
BUILDING ELEVATIONS AND PERSPECTIVE VIEWS
NORTHERN BUS GARAGE RENOVATION PROJECT
MEMORANDUM OF AGREEMENT

Northern Bus Garage

Proposed Perspective Views



SOUTHWEST VIEW LOOKING NORTHEAST ALONG 14TH STREET

Northern Bus Garage Proposed Perspective Views

VIEW LOOKING SOUTHEAST ALONG 14TH STREET AT ENTRY



Northern Bus Garage

Proposed Perspective Views



VIEW LOOKING SOUTHEAST ALONG 14TH STREET

Northern Bus Garage

Proposed Perspective Views



VIEW LOOKING NORTHWEST ALONG IOWA

Northern Bus Garage

Proposed Perspective Views



VIEW LOOKING SOUTHWEST ALONG ARKANSAS

Northern Bus Garage

Proposed Perspective Views



VIEW LOOKING WEST ALONG BUCHANAN AT SOUTHEAST CORNER

ATTACHMENT 3
IDENTIFICATION OF HISTORIC FABRIC REPORT
NORTHERN BUS GARAGE RENOVATION PROJECT
MEMORANDUM OF AGREEMENT



1914 Photograph of the Northern Bus Garage looking southeast (DC History Center)

WMATA NORTHERN BUS GARAGE: IDENTIFICATION OF HISTORIC FABRIC REPORT

Informing the Treatment of the Existing Structure and
Design of the Replacement Bus Garage

February 2020

**BEYER
BLINDER
BELLE**

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Introduction

The Northern Bus Garage is listed in the National Register of Historic Places (NRHP) (listed in 2013) and the D.C. Inventory of Historic Sites (listed in 2012). The building, located at 4615 14th Street NW and formerly known as the Capital Traction Company Car Barn or the Decatur Streetcar Barn, was originally constructed by the Capital Traction Company in 1906. Fully converted from a streetcar barn to a bus garage in 1959 and transferred to WMATA in 1966, the structure is a vital storage and maintenance facility for WMATA's bus transportation services. The original building, designed in the Italian Renaissance Revival style, is a one-story brick masonry building with partial basement level, the length of which spans two city blocks. The building appears to be two complementary masses; one being a two-story structure used as administrative offices and the other housing the repair shops and garage, which features a three-story tower. The building was significantly altered during renovation work completed in 1987-1992. During this time, the southern and eastern elevations of the building were enveloped in a one-story addition with rooftop parking. Decatur Street, to the north, was enclosed and substantial demolition to the roof, interior columns, and basement floor slab also occurred. Additionally, there were many alterations to the administrative offices and the original building elevations.

Current operational and programmatic challenges require that the bus garage be rebuilt while preserving the historic 14th Street façade of the building. It is important that the Northern Bus Garage Replacement Project (the project) meet WMATA's goals of modernization, sustainability, increased community integration, and flexibility for the future needs of electric buses while preserving the historic fabric that retains integrity and expresses the significance of the building.

FTA-funded projects undertaken by WMATA are subject to Section 106 of the National Historic Preservation Act (NHPA), requiring Federal agencies take into account the effects of their undertakings on historic properties and, if the project is determined to have an adverse effect, afford the Advisory Council on Historic Preservation (ACHP) the opportunity to comment on such undertakings. The Section 106 process was initiated in April 2019, and the undertaking was determined to have an adverse effect by FTA and the DC State Historic Preservation Office, although the ACHP declined to participate in the consultation. The project also requires DC Historic Preservation Review Board (HPRB) review and approval. Through the Section 106 process, the FTA has determined that mitigation will be recorded in a Memorandum of Agreement.

History and Significance of the Building

The bus garage was constructed in 1906 to serve as a streetcar storage and maintenance facility and house administrative offices for the Capital Traction Company. (See **Figure 1**) The building was designed by architecture firm Wood, Donn and Deming and was built by construction firm Richardson and Burgess, opening in 1907. In 1926, the basement portion of the building was leased to the Washington Rapid Transit Company for bus maintenance and storage. Between 1956 and 1962, all D.C. streetcar lines were eliminated or converted to bus routes. In 1959, the building was converted to a bus garage, and ownership was transferred to WMATA in 1966.¹

¹ National Register of Historic Places, Capital Traction Company Car Barn, Washington, D.C., National Register #13000290

The Northern Bus Garage building was listed in the D.C. Inventory of Historic Sites in 2012, and in the NRHP in 2013 under Criteria A and C for its architectural and historic significance.² It is considered an outstanding example of Italian Renaissance Revival design for its building type and is directly associated with the streetcar system, a public transportation system that helped develop and determine development patterns of the District of Columbia.³ The building is also eligible for designation under the multiple-property document Streetcar and Bus Resources of Washington, D.C. 1862-1962. According to the multiple property documentation form, to remain eligible under Criterion C, the building must retain its high-style architectural design as well as its original form or shed-like appearance and the streetcar entry openings.⁴

The building's period of significance is from 1906-1959, spanning the period when it served as a streetcar barn.⁵ The period of significance ends when it was converted to a bus garage. Since 1959, many significant alterations have been made to the building.

Figure 1. 1906 photograph of the car barn and administrative offices during construction (Washington Times)



² Under NRHP Criterion A, properties are eligible for listing if they are associated with events that have made a significant contribution to the broad patterns of our history. Under NRHP Criterion C, properties are eligible for listing if they embody the distinctive characteristics of a type, period, or method of construction, or represent the work of a master, possesses high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction. Under the criteria for the DC Inventory, the property is eligible for designation based on the following values: history and architecture and urbanism.

³ National Register of Historic Places, Capital Traction Company Car Barn, Washington, D.C., National Register #13000290

⁴ National Register of Historic Places, Streetcar and Bus Resources of Washington, D.C. Multiple Property Listing, Washington, D.C., #64500948

⁵ National Register of Historic Places, Capital Traction Company Car Barn, Washington, D.C., National Register #13000290

Physical Description and Chronology of Development

The Northern Bus Garage site is bounded by 14th Street to the west, Decatur Street to the north, Iowa Ave to the northeast, Arkansas Ave to the southeast, and Buchanan Street to the south. The main façade of the building faces 14th Street, and therefore, the west façade is the most decorative. As originally constructed, the brick masonry car barn measured 537 feet (north-south) by 208 feet (east-west), occupying nearly half of the site on Square 2811 and a portion of Square 2815. As platted, the two squares were intended to be divided by Crittenden Street. However, because of the construction of the car barn, the road was never laid, and the squares remained joined. The 1911 Baist Real Estate Map shows the original footprint and surrounding streets of the garage. It is interesting to note the residential character of the neighborhoods to the north of the garage and that the Capital Traction Company owned the squares west of 14th Street, yet the area was not developed at the time. (See **Figure 2**)

Figure 2. 1911 Baist Real Estate Map; Decatur Streetcar Barn is the pink building labeled as the Capital Traction Co. (Library of Congress)



The building was designed to look like two complementary masses: a two-story structure housing the administrative offices, featuring a hipped roof with overhanging eaves, and a two-story car barn and repair shop, characterized by a grand three-story tower with a clerestory. As designed and constructed, the garage consisted of an upper (main level) entered along 14th Street and a partially excavated lower (basement) level, accessed from the south elevation of the building. Exterior character-defining features included brick walls accented with stone belt courses, quoining, and keystones; shallow-pitched hipped roofs of the tower and administrative offices, and bracketed eaves. (See **Figure 3**) The garage and repair shop featured a flat roof with a front gable parapet and several large skylights. The building originally

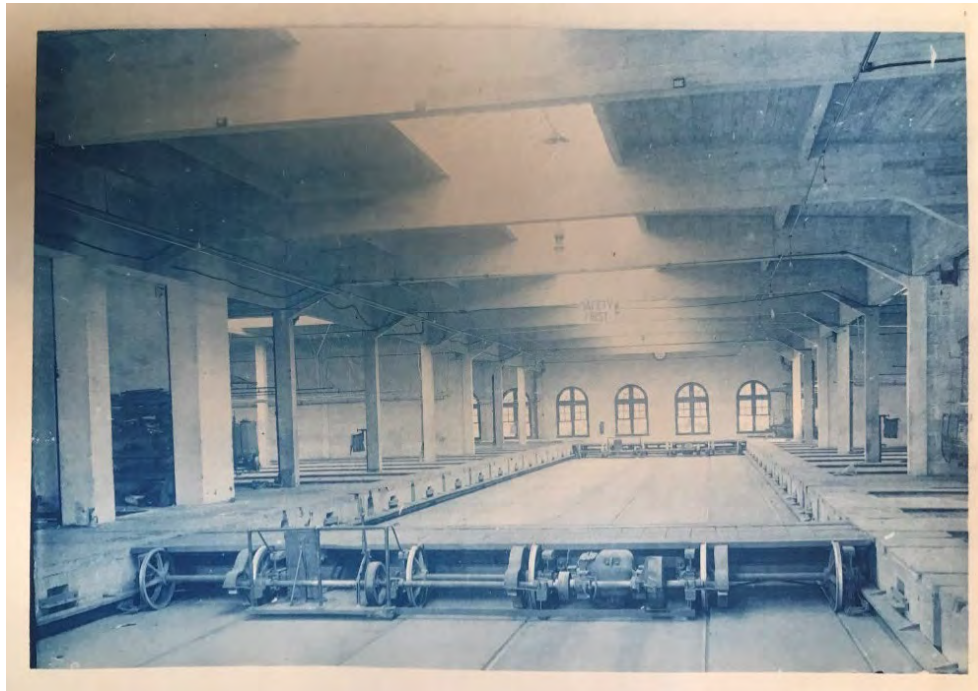
featured three streetcar entrances and exits on the west façade: two facing west and framing the administrative offices and one facing north, immediately adjacent to the tower. Arched window openings on all elevations provided light to the garage and repair shop. The administrative offices, tower, and several projecting pavilions along the north and west elevations featured rectangular windows.

The interior of the car barn is formed by the concrete columns and roof structure. Skylights and the arched window openings provided plentiful daylight. The upper level featured two transfer tables, allowing for the efficient mobility and storage of the street cars. The transfer tables ran parallel to each other from the front (west) to rear (east) elevations of the building. (See **Figure 4**)

Figure 3. 1914 exterior photograph of the northwest corner of the streetcar barn showing the administrative offices, tower, and two of the three original streetcar openings. The north elevation features arched window openings and hipped roof pavilions at the center and western corner of the elevation (DC History Center)



Figure 4. 1914 interior photograph of the Decatur Streetcar Barn showing the transfer table in the foreground and the skylight above (DC History Center)



In 1926, the Washington Rapid Transit Company, established in 1921, leased the lower level of the garage from the Capital Traction Company to use for buses. According to the NRHP nomination, a one-story addition was added to the east elevation of the building at this time to provide storage facilities for the buses. The addition is visible in the 1959 Sanborn map and a 1974 aerial photograph of the bus garage. (See **Figure 5** and **Figure 6**) It is possible that the 1926 addition was expanded after 1959, as it appears slightly larger in the 1974 photograph.

Presumably, many interior alterations were made circa 1959 when the streetcar barn was fully converted to a bus garage, however, the streetcar openings along the west façade continued to be used as bus entries and exits to the garage and repair shops. It is likely that the transfer tables and bays for the streetcars were infilled. Boring samples completed in December 2019 have revealed that partial track infrastructure is extant, although encapsulated in concrete infill. Currently, no documentation has been found that illustrates the interior changes that occurred during this time. Exterior photographs indicate that an additional bus opening was added on the west façade between 1949-1962, immediately adjacent to the north facing opening to the south of the tower. The opening was cut within the pedimented projection, requiring the removal of an arched window opening. A molded cast stone surround, complementing the surrounds of the original openings, was installed. Photographs from 1974 also indicate that an arched window opening at the southern end of the west façade, to the right (south) of the pedimented parapet, was changed to a doorway.

Figure 5. 1959 Sanborn map showing the garage (then owned by the Capital Transit Company) and the 1926 addition at the east side (Capital Traction Company Car Barn National Register Nomination Form)

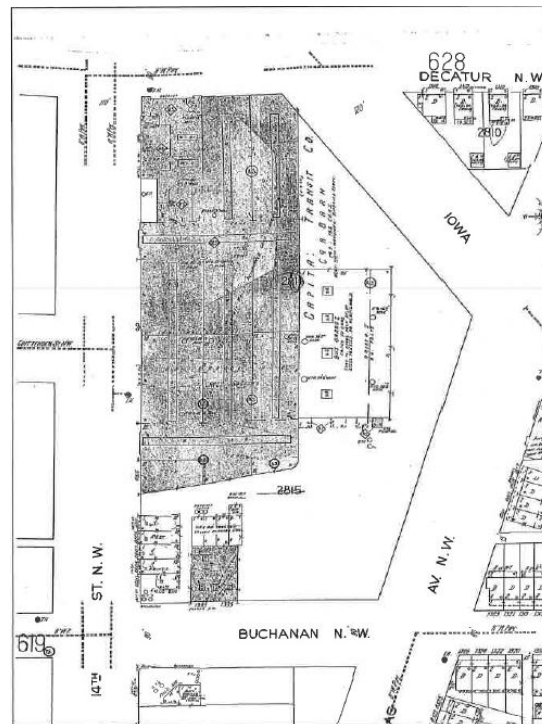


Figure 6. 1974 photograph of the bus garage looking northwest; the 1926 addition is visible on the right (WMATA Archive, George Washington University Special Collections)



The date of the construction of the smokestack at the south elevation of the garage is unknown, but photographs indicate it was constructed after 1914 and before 1962, likely dating to the period of significance. It was constructed to exhaust smoke from the coal-powered boiler room located in the lower level, as discerned from 1978 renovation drawings. (See **Figure 7**) In the 1980s, it was altered with new openings to accommodate updated mechanical equipment.

Another instance of unknown alteration occurred to the north of the tower. 1914 blueprints show that the north elevation of the tower adjacent to the streetcar opening was originally exposed, however, 1978 existing condition drawings show that an angled wall had been built at the streetcar opening, closing off the north elevation of the tower. Today, the wall is still extant, and a doorway has been inserted. (See **Figure 8**)

Figure 7. 1978 Renovation drawing; red arrow shows the smokestack adjacent to the boiler room and coal storage (WMATA)

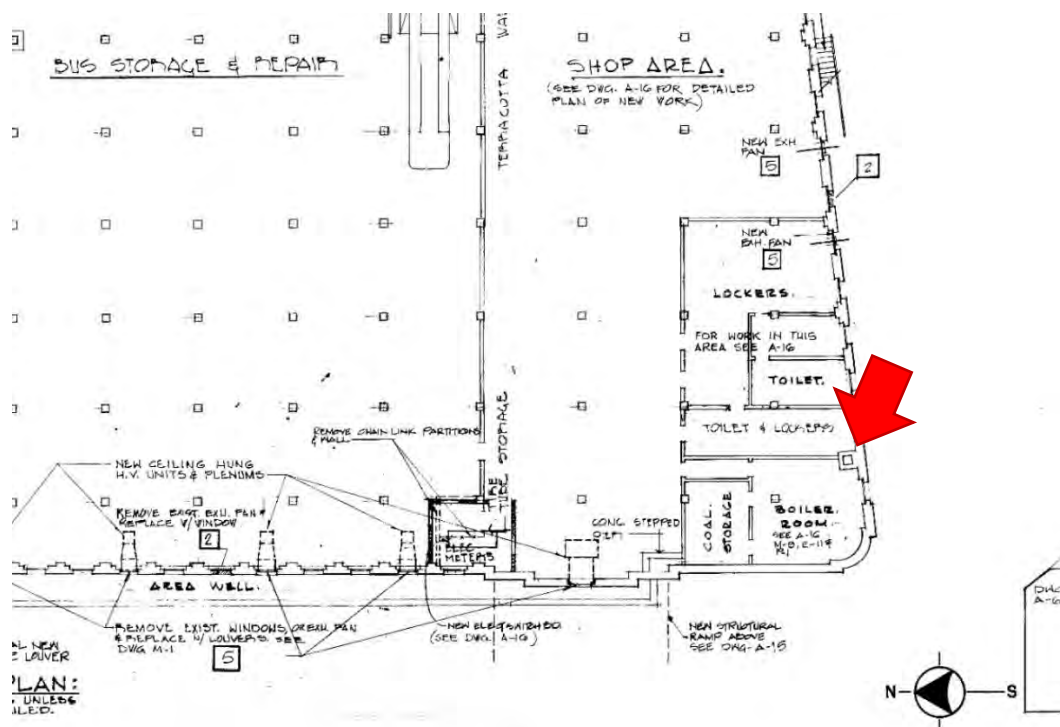


Figure 8. Angled brick wall on right constructed sometime after 1914 and prior to 1978. The wall created an additional interior room and enclosed the north elevation of the tower at that level. The other angled wall with the overhanging door was added after 1978 (BBB)



Numerous significant alterations to the property occurred in the 1980s. To reduce noise effects from bus operations to the surrounding neighborhoods, a thirteen-foot high red brick wall was erected in 1982-1983 around the WMATA property, encircling nearly all of Squares 2811 and 2815, except for the southwest corner at Buchanan and 14th Streets.

From 1987 to 1992, the bus garage underwent a phased renovation and addition. The 1926 bus garage addition to the east of the original structure was demolished, and a one-story maintenance facility and garage with rooftop parking was constructed within the 1983 property wall, wrapping the east, south, and north elevations of the building. (See **Figure 9**) The majority of the original roof was demolished and rebuilt except for roofing over several bays at the northern end and a bay that remained along the full perimeter of the building. (See **Figure 10** and **Figure 11**) All but two of the original wood windows were replaced with aluminum windows, and several window openings were enclosed or changed to bus openings. A bus entry was inserted at the southern end of the west façade, immediately left (north) of the pedimented parapet at that end. (See **Figure 12**) To the right (south) of the pediment, an additional window was changed to a doorway. (See **Figure 13**)

The north and majority of the east elevations of the building were enclosed by the addition and bus ramp. The ramp descends west to east and north to south, following the topography of the site. As a result, Decatur Street, between 14th Street and Iowa Ave. was closed to traffic and was incorporated into the bus garage. A truncated roof encloses the original north elevation of garage. The original north elevation, which featured arched window openings was significantly altered with new bus openings, allowing buses to easily move from the garage to the bus ramp and exit at Decatur and 14th Streets. (See **Figure 14**) The east elevation was enveloped by the addition. The original arched window openings are

still present, although many of the fanlights have been infilled with brick or replaced with louvers. The original east wall remains visible at the upper level interior and from the roof of the 1987 addition. (See **Figure 15**) The addition also had significant effects to the south elevation of the original structure. The lower level of the south elevation was fully enclosed and many of the windows at the upper level were removed and filled with glass block.

Figure 9. Contemporary aerial image of the bus garage looking southeast; the original bus garage was wrapped in the one-story 1987-1992 addition that enclosed Decatur Street to the left (north) of the administrative offices and provided WMATA with rooftop parking at the south and east (Google)



Figure 10. 1987 photograph looking east showing the extent of the demolition that occurred within the bus garage. The entire ceiling and roof structure in this area was removed except for one bay along the perimeter of the east wall (WMATA Archive, George Washington University Special Collections)



Figure 11. Diagram showing the extent of the original roof structure that was removed during the 1987-1992 renovation in green. The red outline shows the original footprint of the garage and the blue outline shows the contemporary property outline. Everything outside the red outline was added during the 1987-1992 renovation (BBB)



Figure 12. Bus entry at the southern end of the west façade was added during the 1987-1992 renovation (BBB)



Figure 13. The two doorways to the right of the pedimented bay are not historic. The one on the left was changed from a window opening to a door prior to 1974 while the one on the right was changed during the 1987-1992 renovation (BBB)



Figure 14. A truncated roof shelters the original north elevation and Decatur Street. Large openings for buses were punched in the wall during the 1987-1992 renovation (BBB)



Figure 15. Roof of the 1987 addition abuts the original east elevation. Several of the arched windows have been infilled with brick (BBB)



Significant interior alterations were made to the administrative offices. Rooms were reconfigured, and a new stair and elevator tower addition was constructed at the north end of the office building. The stair and elevator tower was designed to match the Italian Renaissance Revival style of the rest of the building and features the same materials, a slate hipped roof, overhanging eaves with brackets, and similar brick detailing. The interior of the garage was also impacted. The majority of columns on the upper level were removed and reconstructed when the majority of the roof was demolished and rebuilt. On the lower level, the original columns and ceiling slab remain, however, the concrete floor slab was removed, and the floor was excavated approximately 12 inches and re-laid. The original columns and exterior walls are supported by non-historic concrete footings to adjust for the lowered floor. (See **Figure 16**)

Figure 16. Lower level of the bus garage; the original columns and ceiling are present, however, the concrete floor was removed and excavated in the 1980s. The new concrete footings below the columns are visible in the photo (BBB)



Summary of Exterior Conditions

The administrative offices and 14th Street façade exterior building fabric are in overall fair condition. Open and debonded masonry joints are present but are concentrated to vertical facing joints at the building cornices, projecting string courses, and sills. The stone and brick masonry exhibit limited spalling, cracks, perforations from ferrous metal inserts or previous attachments, inappropriate past masonry repairs and patches, soiling, and biological growth. Cracks and spalling are especially present at the stone cornice and the stone surrounds at the original streetcar openings along 14th Street. (See **Figure 17**) The pebble-dashed stucco material present at the eaves of the administrative offices and tower is in good to fair condition, exhibiting some areas of cracking and missing stucco. Many slates on the hipped roof are broken or loose. Metal snow guards are bent and ineffective and the construction of the slate roof shows deficiencies. The roof should be investigated for appropriate flashing, slate headlap, underlayment, and ridge construction. The roof may require replacement.

Repair and restoration of the administrative offices and 14th Street NW masonry façade will require a variety of treatments. Cracks should be repaired and patched with grout or restoration mortar with a composition appropriate for the masonry substrate. Structural cracks may require the insertion of pins to further stabilize the masonry. Small spalls may be tooled to sound stone so that further spalling doesn't occur, and that water doesn't collect or pool. Larger spalls may require patching with restoration mortar or full or partial masonry replacement. All open and debonded joints should be repointed using matching mortar and missing masonry patched with matching materials. Ivy plants growing on the masonry should be carefully removed. The masonry should be cleaned using the gentlest means possible to remove soiling, staining, and biological growth. Soiling is especially apparent at the cornice and at the base of the building.

Figure 17. The north facing streetcar/bus opening adjacent to the tower exhibits stone cracking, spalling, and masonry soiling which require repair (BBB)



Summary of Treatment and Effects to the Historic Fabric

As discussed above, the bus garage has experienced many alterations across its 114-year history, especially as a result of the 1987-1992 renovation. Such changes have affected the integrity of the historic fabric. The 14th Street façade has been altered the least and retains much of its original Italian Renaissance Revival design. The façade, including the administrative offices and tower, has a high level of integrity of design, materials, and workmanship. The remaining elevations have been significantly modified and the integrity of design, materials, and workmanship has been diminished. The same can be said for the interior of the garage, which was significantly altered by the removal of the majority of the upper level columns, lower level slab, and roof structure.

The drawing below shows the existing historic masonry walls overlaid on the design for the upper level of the new bus garage. (See **Figure 18**) Due to the alterations of the historic fabric and the need for a new bus garage that can accommodate efficient and safe vehicle circulation for 40'-0" and 60'-0" articulated buses, the existing bus garage must be replaced. The new bus garage will also ensure adequate height clearance for newer diesel buses and future overhead charging for electric buses, be reorganized to expand the number of maintenance bays and bus storage parking, incorporate a retail element for increased community integration, will be able to 100 percent filter exhaust air, and will reduce operating costs through sustainable strategies. The replacement bus garage project proposes that the east wall and the majority of the north and south walls be demolished. However, the entire west façade, including the administrative offices and tower, would be retained and preserved allowing for the conservation, repair, and cleaning of areas of damage, weathering, soiling, and staining. There is also the opportunity to replace the existing widows with replicas of the historic windows and restore window openings that were previously infilled or replaced with louvers. Such treatments would be developed as design coordination for the project continues. Portions of the upper level of the north and

south elevations, immediately adjacent to the west façade, may be retained but will require continued design coordination and input from the Section 106 process and other review processes, before a final decision on treatment can be made.

Bibliography

Primary Resources

D.C. History Center

The D.C. History Center, located at the Carnegie Library in Washington, D.C. holds several photograph collections, including the John P. Wymer collection, Kathleen Sinclair Wood collection, the Crockett streetcar photo collection, and the Joseph Jessel streetcar slide collection, which had several photographs of the Northern Bus Garage from the 1940s through the 1960s. The Capital Transit Company records are also located at the History Center, which included photographs and blueprint drawings from 1914.

WMATA Archive at the George Washington University Special Collections Library

The WMATA Archives at the George Washington University Special Collections Library held many photographs of the bus garage from 1974 and of the 1987-1992 renovation and addition work.

Secondary Resources

National Register of Historic Places, Capital Traction Company Car Barn, Washington, D.C., National Register #13000290

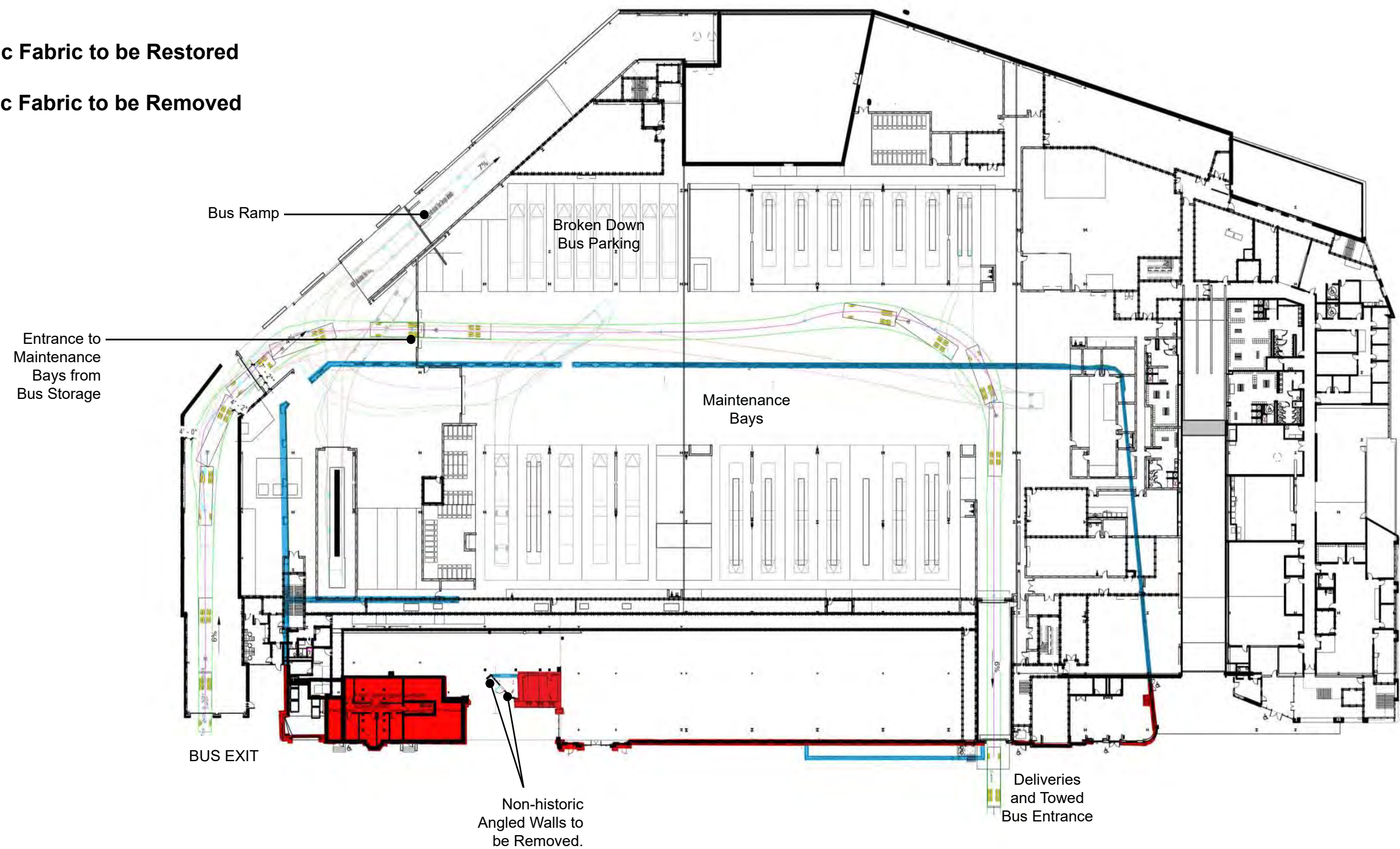
National Register of Historic Places, Streetcar and Bus Resources of Washington, D.C. Multiple Property Listing, Washington, D.C., #64500948

Northern Bus Garage

Proposed Floor Plan with Historic Overlay – Upper Level



- Historic Fabric to be Restored
- Historic Fabric to be Removed



ATTACHMENT 4
RESTORATION NARRATIVE SCOPE OF WORK, ELEVATIONS AND PLANS
NORTHERN BUS GARAGE RENOVATION PROJECT
MEMORANDUM OF AGREEMENT

Restoration Narrative Scope of Work

The restoration scope for the WMATA Northern Bus Garage will include the restoration of the 14th Street elevation; a 36'8" portion of the original south elevation, including the chimney; and a 28' 7" portion of the original north elevation. The restoration will include the removal of non-original alterations, including the c. 1987-1992 Administration Building stair tower, the 1970s angled brick wall in the original streetcar entry, two non-original pedestrian doors in the 14th Street elevation (northern door c. 1970, southern door c. 1987-1992), and the removal of non-original brick window infills. The elevations will be cleaned, repaired, and repointed where needed. The 14th Street NW elevation will be supported by temporary supports during excavation and construction of the new facility. The south portion of the elevation that will be retained will be catalogued, dismantled, and reassembled prior to restoration as its foundations are in conflict with the new bus drive aisle.

The elevation restoration includes the installation of new aluminum wrapped wood core IGU windows and exterior Administration Building doors to match the historic windows and doors as closely as is possible. Historic images, such as photographs and available plans, were used as source material for the design of new doors and windows. The historic symmetrical design of the doors will be retained for the new doors, in keeping with the historic character of the building. The two extant original wood windows on the 14th Street NW elevation will be restored and reinstalled in their existing locations. A historic round wood window currently located at the east elevation will be salvaged, restored, and installed in an opening in the 14th Street NW elevation where this same type of window was originally located, but the window was removed and bricked in at some point.

A survey completed in February of 2020 determined that overall, the brick masonry is in good condition. There are limited areas of step cracking, bio growth, staining, incompatible repointing, and previous alterations. All historic fabric will be cleaned in a manner consistent with the Secretary of the Interior's Guidelines for Rehabilitation: cleaning soiled masonry surfaces with the gentlest method possible. Non-original brick or mortar will be removed. Non-original and deteriorated mortar will be removed and replaced with an approved matching mortar as noted above. Non-original brick will be replaced with historic brick salvaged from the site and mortar analysis will be undertaken to determine an acceptable mortar for repairs. In order to retain as much historic masonry in situ as possible, small brick cracks or mechanical damage will be repaired rather than replaced. These repairs are ONLY for minor cracks and holes from anchors drilled in the face of the brick will be repaired with a patching mortar in compliance with the Secretary of the Interior's Guidelines for Rehabilitation.

The limestone and granite portions of the elevation are in a more distressed condition than the brick and will require more repair and, in select locations all noted on the drawings, replacement to match historic. Small areas of stone damage will be repaired with custom matched mortar repairs or dutchman. Only in a few limited instances will replacement to match historic be required. All limestone and granite will be cleaned in a manner consistent with the Secretary of the Interior's Guidelines for Rehabilitation: cleaning soiled masonry surfaces with the gentlest method possible. As detailed in contract documents, the non-historic parapet flashing currently installed in some locations on 14th Street will be removed to expose the historic limestone beneath. Small areas of stone damage will be repaired with custom matched mortar repairs or dutchman. Only in a few limited instances will replacement to match historic be required.

The pebble dash stucco at the cornice of the Administration Building and Tower will be cleaned in a manner consistent with the Secretary of the Interior's Guidelines for Rehabilitation: cleaning soiled masonry surfaces with the gentlest method possible. Repairs are identified in the contract documents where cracking and de-laminating has occurred. The painted wood trim in the cornice will be cleaned, repaired, and repainted.

The restoration will include the replacement of the non-original Administration Building and Tower slate and metal roofs with historically appropriate slate and metal roofing. The roofs and underlayment require full replacement based on poor condition. New gutters and downspouts to match the historic will be installed.

Restoration Elevations and Plans on following pages:



1914 Photograph (DC History Center)

WMATA Northern Bus Garage

4615 14th Street NW
Washington, D.C. 20011

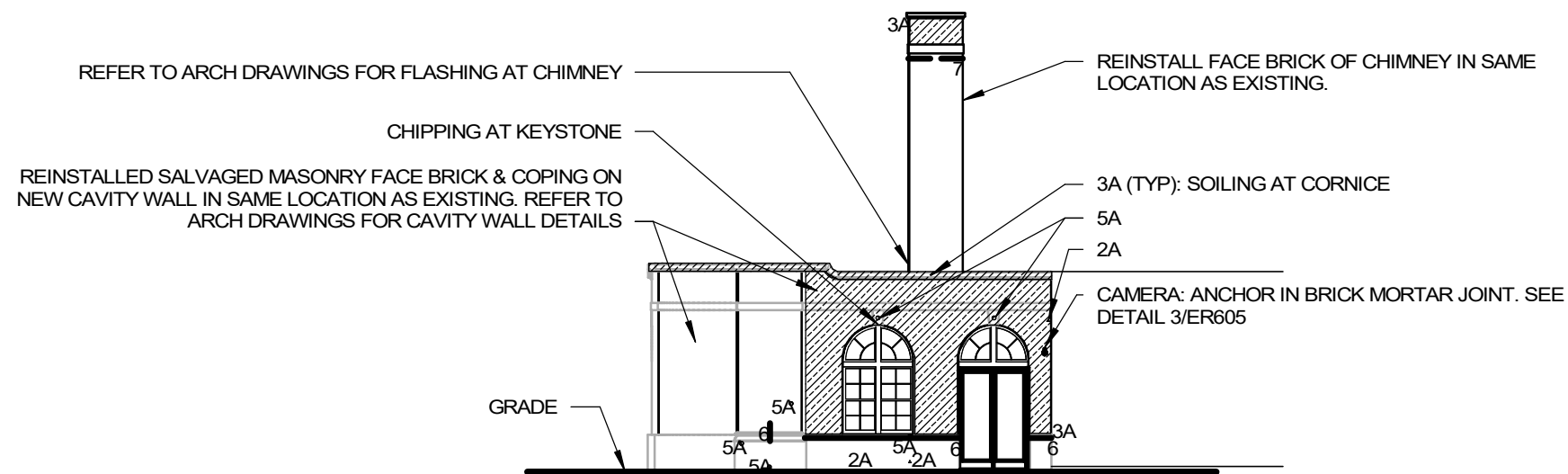
Elevations for Section 106 Consultation
October 1, 2021





WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

PREPARED BY:

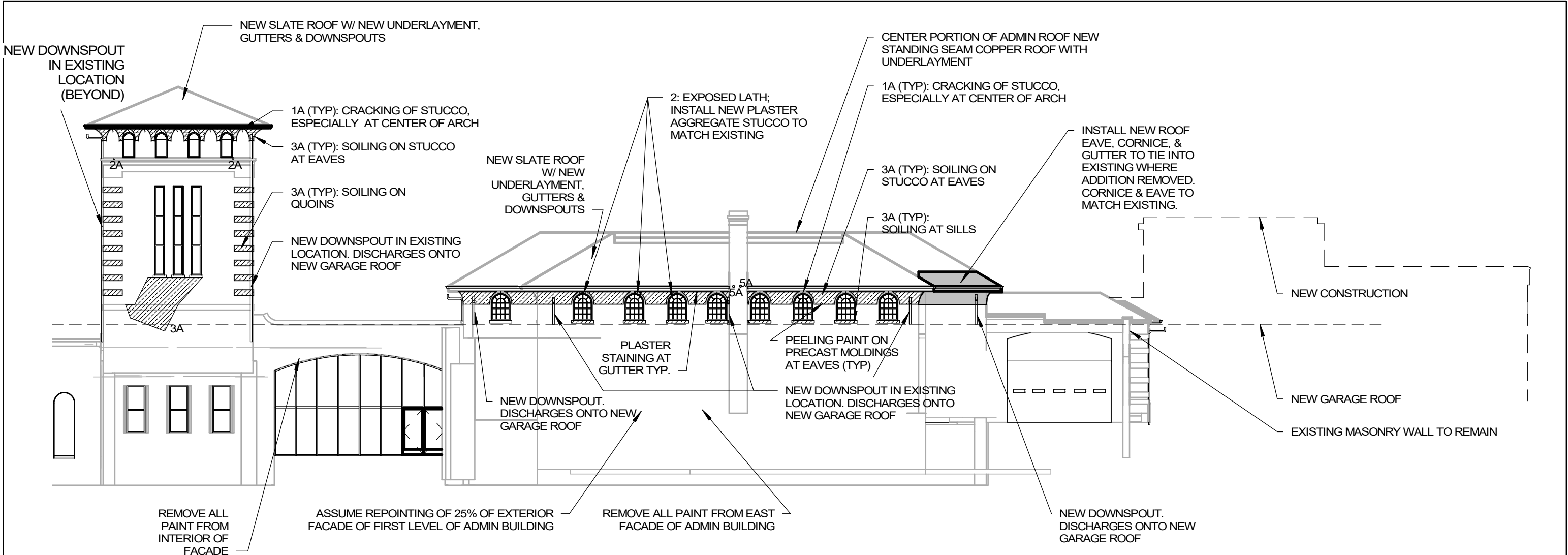
BEYER BLINDER BELLE ARCHITECTS & PLANNERS LLP
3307 M STREET NW
WASHINGTON, D.C. 20007

Northern Bus Garage - Preservation Treatment Approach - Elevations



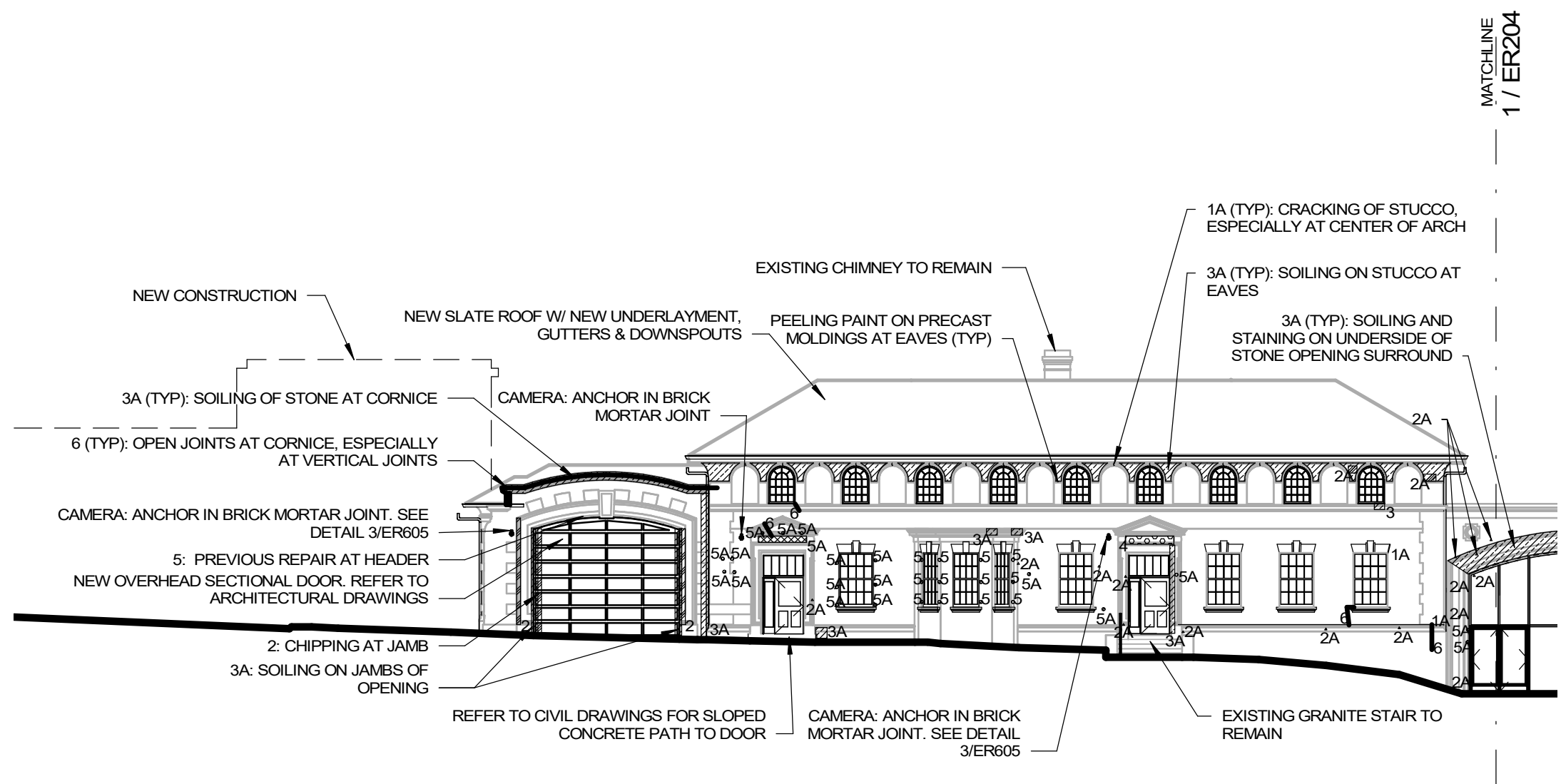
SYMBOLS LEGEND		SHEET NOTES	
<div>— EXISTING</div> <div>— NEW OR REINSTALLED SALVAGED HISTORIC FABRIC</div> <div>EXISTING CONDITIONS REQUIRING TREATMENT</div> <div>1 - REPAIR CRACKS AND DEFORMATION 1A - CRACK</div> <div>2 - REPAIR DETACHMENT AND DISLOCATION 2A - CHIPPING</div> <div>3 - CLEAN DISCOLORATION AND DEPOSITS 3A - SOILING</div> <div>4 - REMOVE BIOLOGICAL COLONIZATION</div>	<div>5 - ALTERATIONS/PREVIOUS REPAIRS. REMOVE NON-ORIGINAL BRICK OR STONE & INSTALL SALVAGED HISTORIC BRICK OR NEW STONE TO MATCH EXISTING. 5A - FERROUS METAL INSERTS</div> <div>6 - OPEN JOINT</div> <div>7 - DEBONDED JOINT</div> <div>8 - INACCESSIBLE PORTION OF FACADE DUE TO EXISTING CONSTRUCTION. BBB TO SURVEY AFTER DEMOLITION</div> <div>REFER TO BRICK AND STONE REPAIR, REPOINTING AND CLEANING SPECIFICATIONS FOR TREATMENT PROCEDURES</div>	<div> NEW ALUMINUM WRAPPED WOOD CORE WINDOW WITH IGU RE: ER-601 FOR WINDOW SCHEDULE</div> <div> REINSTALLED RESTORED HISTORIC WOOD WINDOW RE: ER-601 FOR WINDOW SCHEDULE</div> <div> NEW DOOR TAG</div> <div> WINDOW TAG</div>	<div>1. INSTALL NEW SLATE ROOF AND UNDERLAYMENT AT TOWER, ADMINISTRATION BUILDING, & HIPPED ROOF TO NORTH OF ADMINISTRATION BUILDING TO REMAIN. REFER TO ARCH DRAWINGS FOR SPLASH BLOCKS</div> <div>2. ALL MASONRY TO RECEIVE GENERAL CLEANING. REFER TO MASONRY CLEANING SPECS</div> <div>3. REMOVE ALL EXISTING PARAPET FLASHING . REPOINT ALL SKYWARD FACING JOINTS IN PARAPET & INSTALL LEAD T'S AT ALL HORIZONTAL JOINTS IN EXISTING LIMESTONE COPING</div> <div><div>1 ER101</div><div>EL-01-04 SOUTH ELEVATION - EXTERIOR RESTORATION</div><div>1/16" = 1'-0"</div></div>

Northern Bus Garage - Preservation Treatment Approach - Elevations



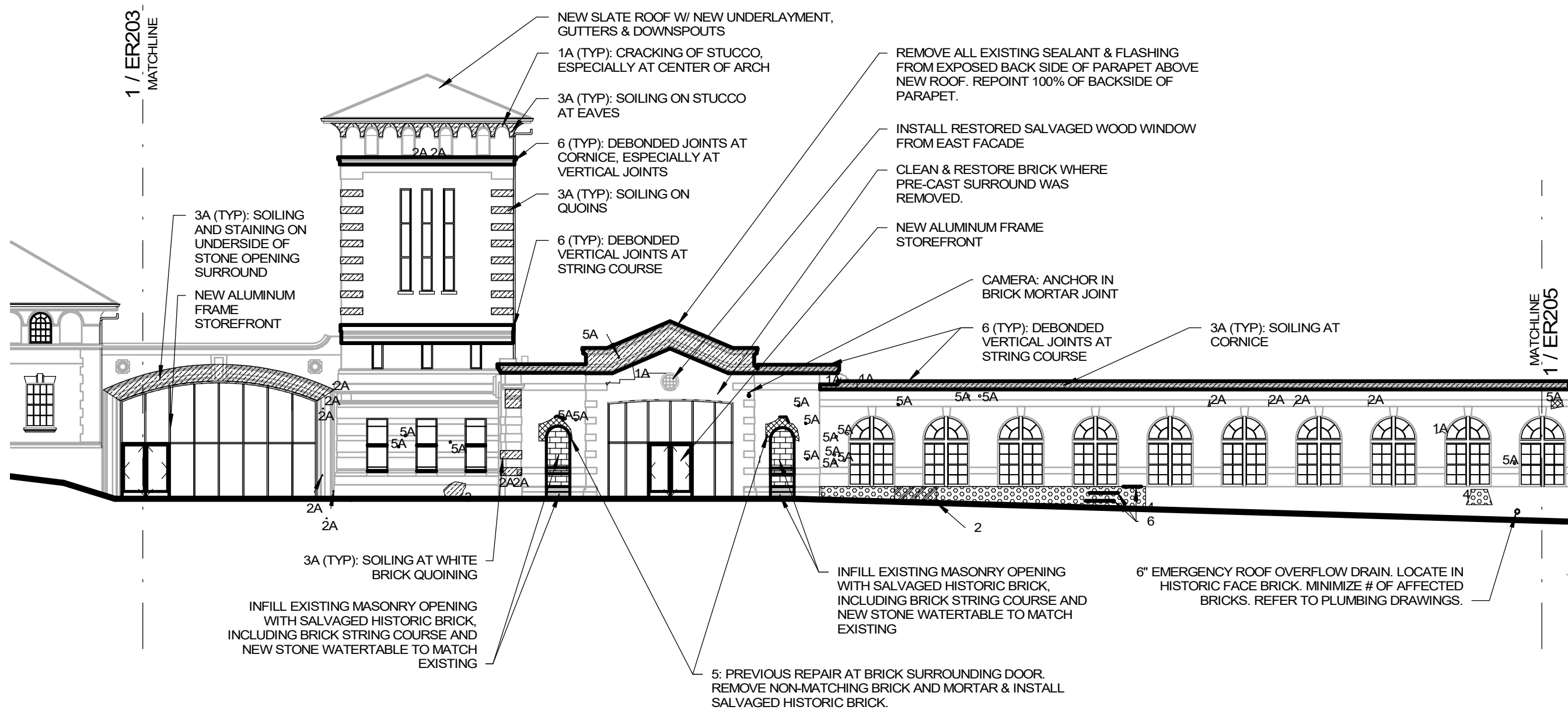
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<div>1</div> EL-02-01 EAST ELEVATION - EXTERIOR RESTORATION ER101 1/16" = 1'-0"				











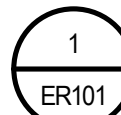
Northern Bus Garage - Preservation Treatment Approach - Elevations



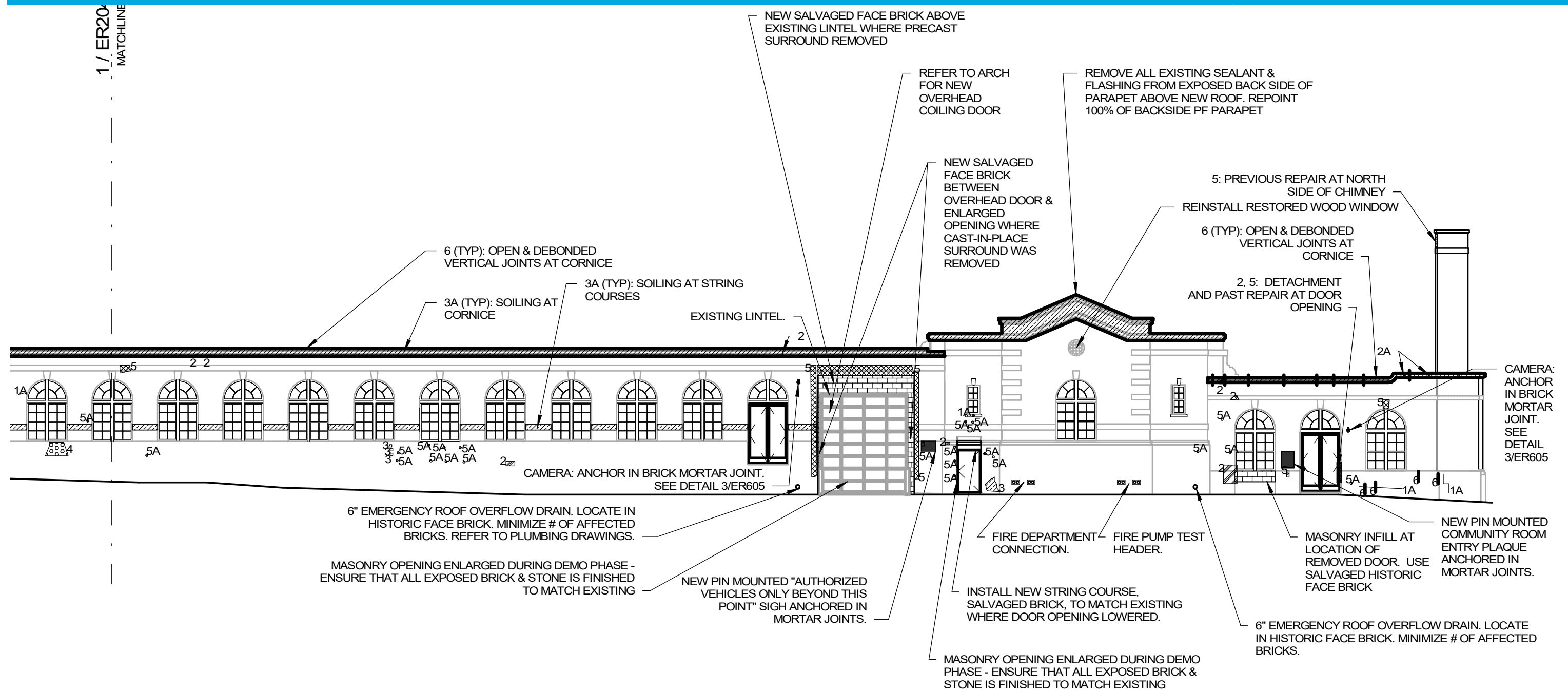
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Northern Bus Garage - Preservation Treatment Approach - Elevations



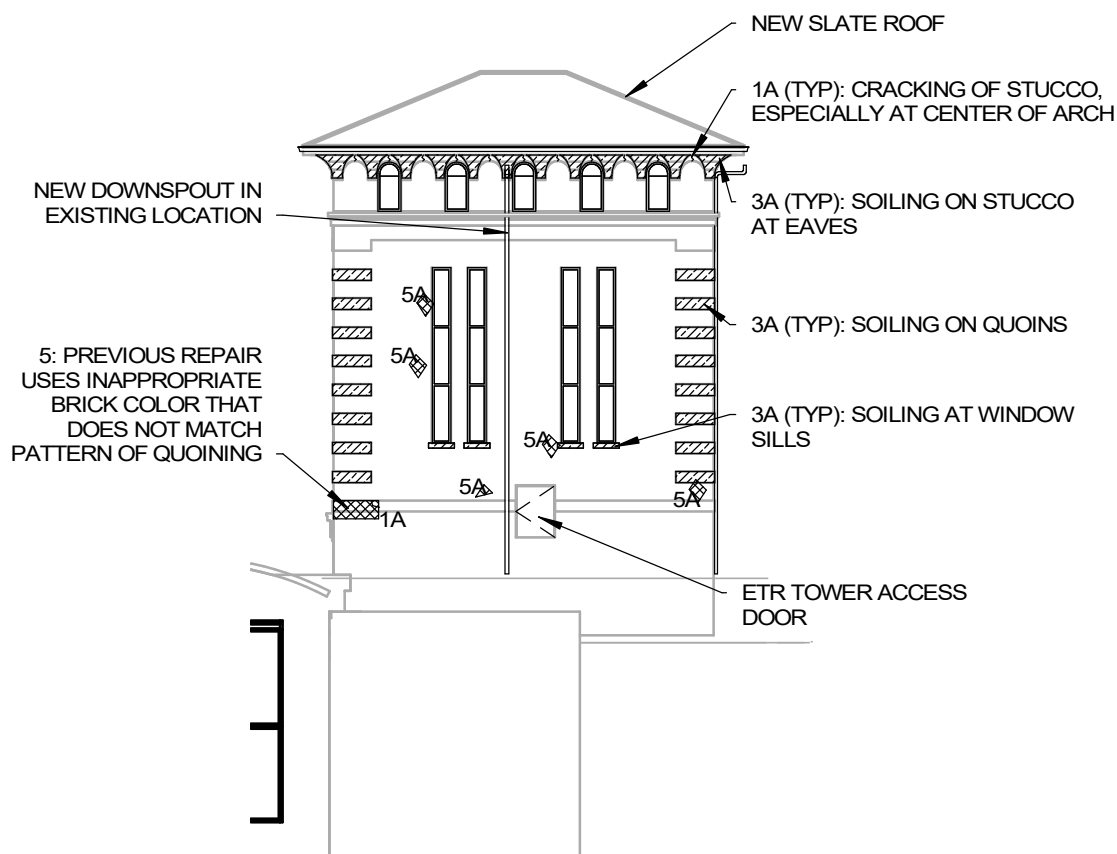
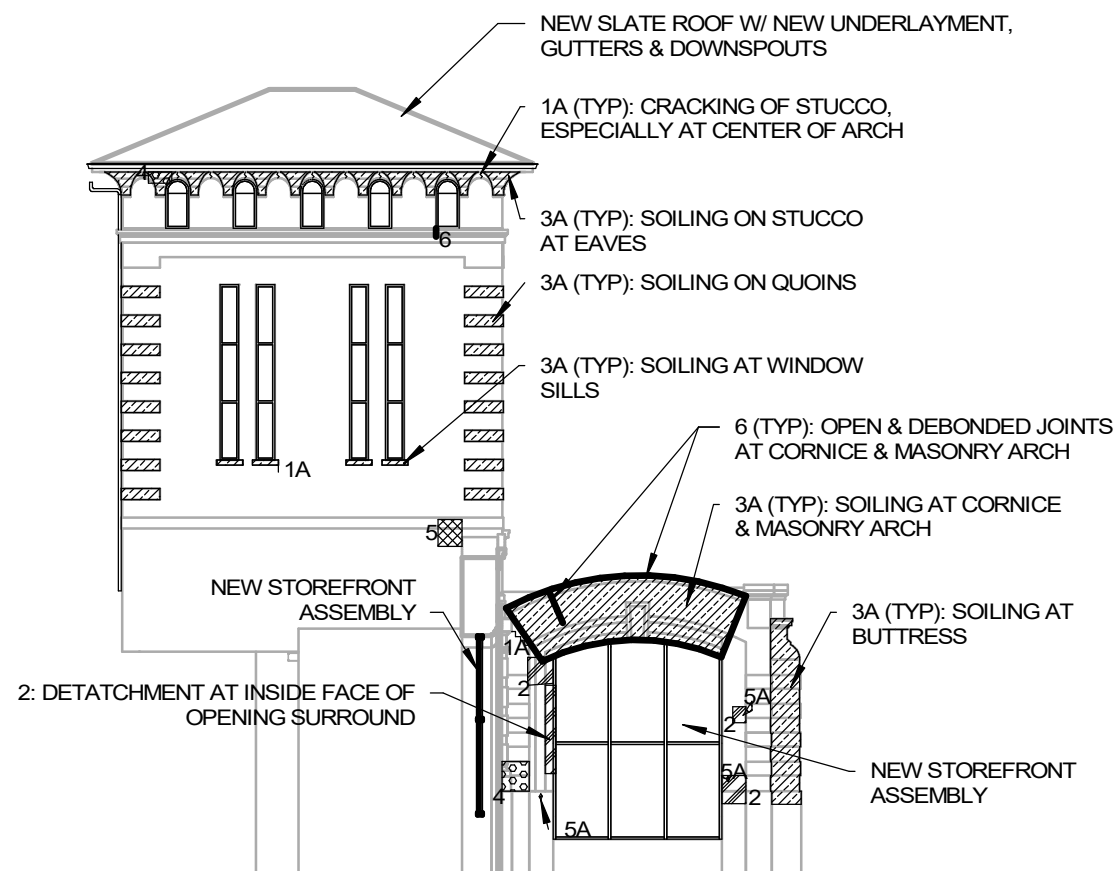
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Northern Bus Garage - Preservation Treatment Approach - Elevations



SYMBOLS LEGEND		SHEET		NOTES
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Northern Bus Garage - Preservation Treatment Approach - Elevations

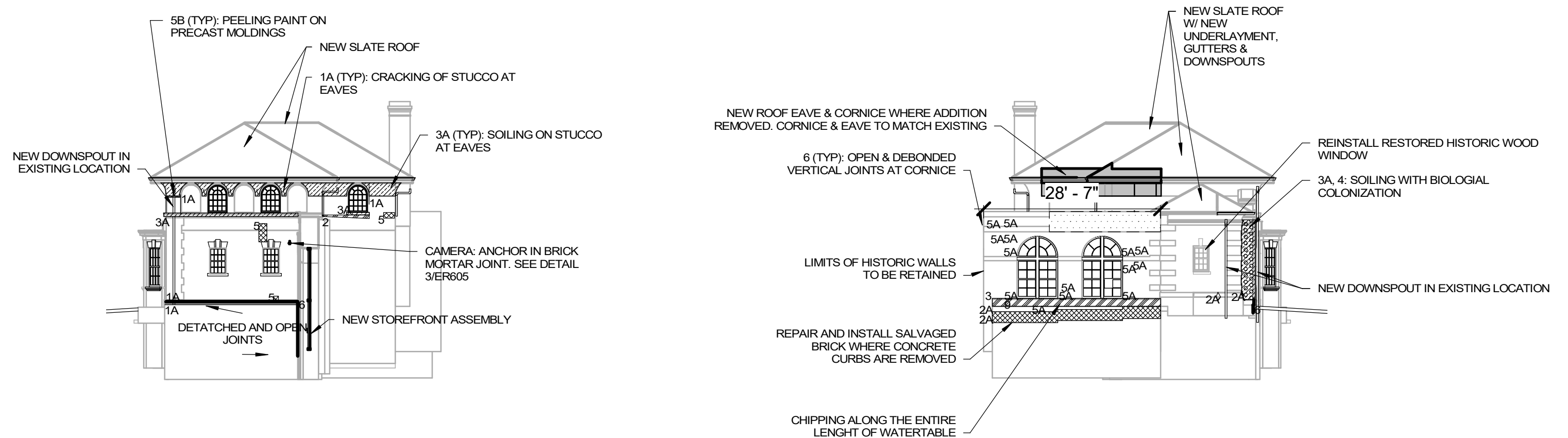


2
ER102
EL-04-02 TOWER NORTH ELEVATION - EXTERIOR RESTORATION
1/16" = 1'-0"

4
ER102
EL-01-02 TOWER SOUTH ELEVATION - EXTERIOR RESTORATION
1/16" = 1'-0"

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Northern Bus Garage - Preservation Treatment Approach - Elevations



1
ER102

EL-01-02 ADMIN SOUTH ELEVATION - EXTERIOR RESTORATION

1/16" = 1'-0"

2
ER102

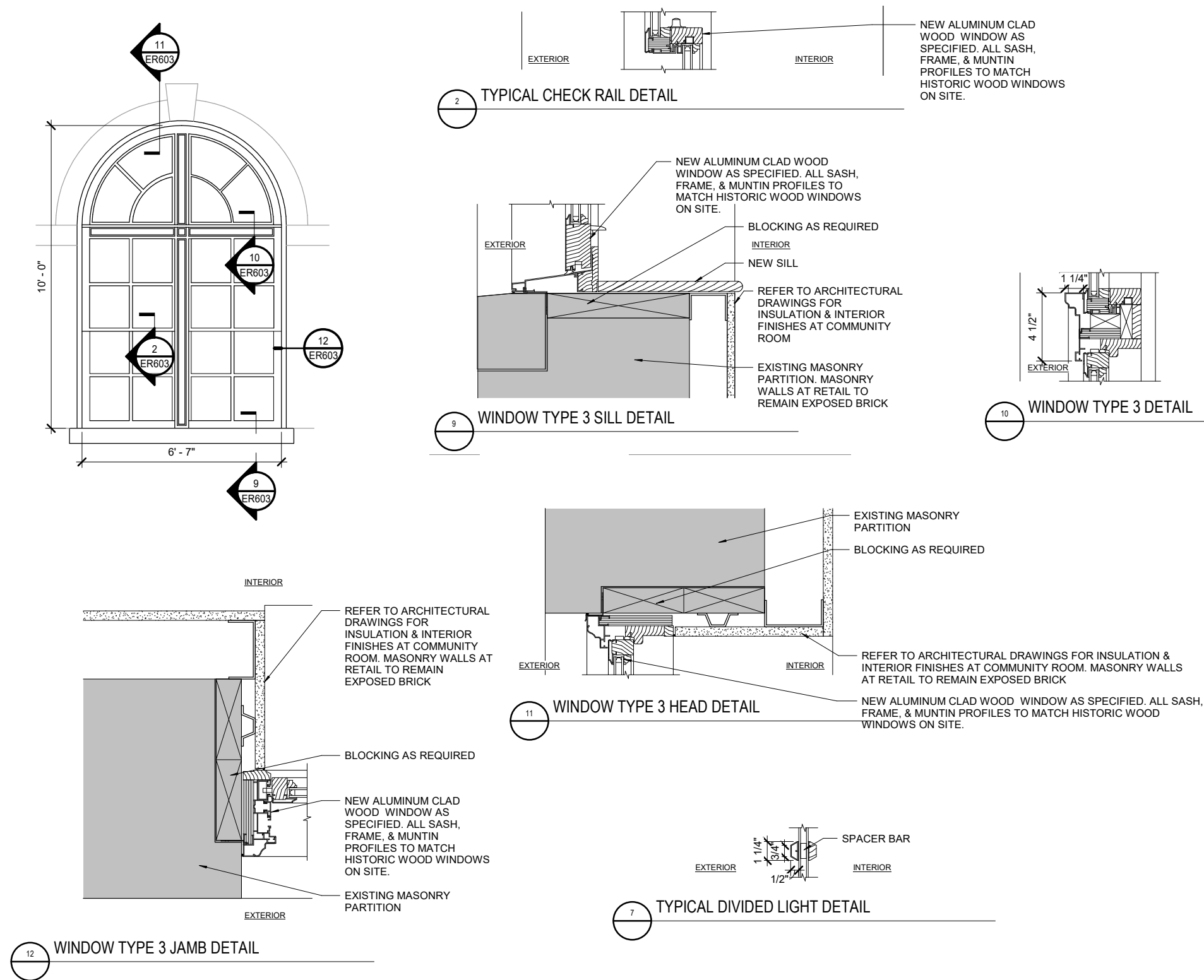
EL-04-02 ADMIN NORTH ELEVATION - EXTERIOR RESTORATION

1/16" = 1'-0"

SYMBOLS LEGEND			SHEET	NOTES
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Northern Bus Garage - Preservation Treatment Approach - Windows

Window Type 3

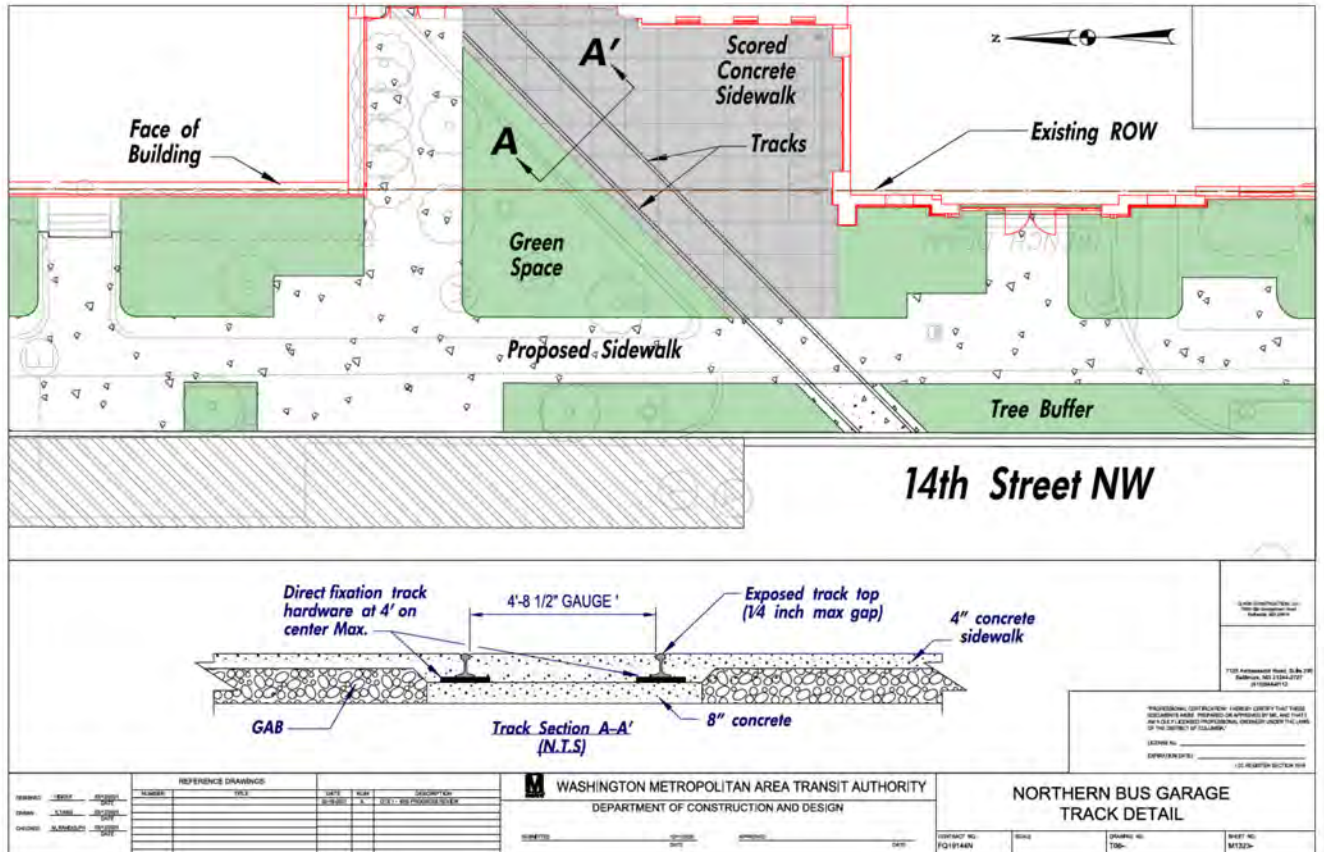


Remaining Original Window



All sash, frame, and muntin profiles to match the only remaining original window on site.

ATTACHMENT 5 **REPLICA STREETCAR TRACK INSTALLATION** **NORTHERN BUS GARAGE RENOVATION PROJECT** **MEMORANDUM OF AGREEMENT**



ATTACHMENT 6
INTERPRETIVE SIGNAGE EXHIBITS
NORTHERN BUS GARAGE RENOVATION PROJECT
MEMORANDUM OF AGREEMENT

To help mitigate the adverse effects associated with the renovation of the Northern Bus Garage, WMATA will develop and install interpretive signage exhibits as described below. This Scope of Work is organized into four sections: Background, Goals of the Exhibits, Tasks, and Deliverables.

Background:

WMATA plans to renovate the Northern Bus Garage, which is listed in the National Register of Historic Places (NRHP; NR# 13000290 listed April 5, 2013) and as a DC Historic Landmark (September 27, 2012) as the Capital Traction Company Decatur Street Car Barn. The renovation effort will remove portions of the historic fabric of the car barn, which will result in an adverse effect.

As part of mitigation efforts for the adverse effect, WMATA will be providing interpretive signage exhibits as explained below. Exterior signage shall focus on the historical and architectural characteristics (the building's history, architecture, and use) that qualify the building for listing in the NRHP. Interior exhibits will provide additional details about the Northern Bus Garage and related topics such as the role the garage played in the development of the surrounding neighborhood and community.

Goal of the Exhibits:

These interpretive signage exhibits will explain the historical and architectural characteristics that qualify the Northern Bus Garage for listing in the NRHP and connect the community and others to the significance of the Northern Bus Garage, especially the restored portions of the 1906 building along 14th Street, NW, by explaining the role the facility played in the development of transportation in Washington, D.C. and the surrounding neighborhood. Broader topics related to commercial development, social history, African American history, and other themes associated with the facility and the community will also be addressed in the community room exhibits to provide relevant information from a wider variety of perspectives. All exhibits will be designed to be compatible with their historic setting, both exterior and interior, and will not cause any damage to historic fabric.

Specific Tasks:

One to three exterior interpretive signage exhibits will be developed to explain the historical and architectural significance of the Northern Bus Garage. Text will be based upon the NRHP nomination for the Capital Traction Company Car Barn, the NRHP Multiple Property Documentation for Streetcar and Bus Resources of Washington, DC 1862-1962, and related research. One exhibit will be used to explain the replica streetcar tracks that will be installed in

front of the Northern Bus Garage along 14th Street, NW. Proposed signage locations will be identified through consultation with the DC SHPO. The primary location of exterior exhibits will be adjacent to the restored portions of the building on 14th Street, NW, but additional exhibits may also be installed adjacent to and/or on newly constructed portions of the Northern Bus Garage to provide additional interpretive opportunities and to enliven and break down the scale of the large new building. The appearance of the exterior exhibits, especially those along 14th Street, NW and within or adjacent to public space, will be based upon existing interpretive signage exhibits within the District of Columbia (e.g. the Neighborhood Heritage Trails installed by Cultural Tourism DC and/or the Kalorama Citizens Association signage – see examples below) to provide consistency throughout the city and make it easier for users to recognize the as interpretive signage exhibits. Any interpretive signage exhibits that may be attached to the newly constructed portions of the Northern Bus Garage may be designed with greater flexibility.





QTY: 1 (24"x42") EXTERIOR GRAPHIC FOR PEDESTAL

SCALE: 3/4"=1'-0"

MATERIAL: EXTERIOR GRADE CHPL GRAPHIC FOR
SURFACE MOUNT ON PEDESTAL



Up to five interior interpretive signage exhibits will be installed in the 1600 sq. ft. community room which, for reference, has a finished wall height of 13 ft. 8 in. The interior exhibits shall focus on broader historical themes that relate to the development of the Northern Bus Garage and the surrounding neighborhood and community, including African-American History and related topics. The content will be determined in consultation with the DC SHPO and the consulting parties; the final number of exhibits will be determined in consultation with FTA and DC SHPO. The appearance of the interior signs should relate to that of the exterior signage exhibits, but more flexibility can be applied to the design of the interior exhibits provided they do not damage any historic interior fabric. For example, three-dimensional artifacts, audio/visual samples, personal memorabilia, and other creative methods of interpretation may be considered for incorporation into the designs.

Deliverables:

1. In accordance the Section 106 Memorandum of Agreement (MOA) the contractor hired by WMATA will solicit initial input from DC SHPO and the consulting parties regarding the topics they would like to have included in the interpretive signage exhibits. As appropriate to fully develop the topics, the contractor will conduct additional outreach to individuals or groups that are knowledgeable about community history.
2. Based upon the feedback provided in Deliverable 1 above, the contractor will research historical themes using primary and secondary sources. The contractor will conduct a minimum of three oral history interviews with relevant community members and people historically associated with the Northern Bus Garage facility. Oral histories shall be transcribed and transcriptions shall be provided to consulting parties upon request.

3. The contractor will develop draft text and graphics for interpretive signage exhibits, along with recommendations for the locations, size, and related details in keeping with the existing interpretive signage examples cited above.
4. Full color drafts of all interpretive signage exhibits will be provided in digital format to the consulting parties and DC SHPO for review and comment.
5. The contractor shall submit digital versions of the full color drafts and all consulting party comments to the DC SHPO for final review. The contractor will consult further with the DC SHPO to finalize all aspects of the interpretive signage exhibits including but not limited to text, images, location, size and design. Once approved by DC SHPO in writing, the contractor shall prepare final plans and a cost estimate for fabrication and installation of all interpretive signage exhibits.
6. WMATA shall fabricate and install all the interpretive signage exhibits within thirty days of issuance of the building occupancy permit, in accordance with the Section 106 MOA.



United States Department of the Interior

OFFICE OF THE SECRETARY
Office of Environmental Policy and Compliance
5 Post Office Square, Suite 18011
Boston, Massachusetts 02109

February 2, 2022

4111
ER 22/0001

Terry Garcia Crews
Regional Administrator, Region 3 Office
Federal Transit Administration
1835 Market Street, Suite 1910
Philadelphia, PA 19103

RE: Comments
Draft Section 4(f) Evaluation
WMATA Northern Bus Garage Replacement
Washington, DC

Dear Ms. Garcia Crews:

The U.S. Department of the Interior (Department) has reviewed the Northern Bus Garage Draft Section 4(f) Evaluation prepared by The Washington Metropolitan Transit Authority (WMATA) and submits the following comments prepared in compliance with Section 4(f) of the US Department of Transportation (USDOT) Act of 1966, which is codified at 49 U.S.C. § 303 and 23 U.S.C. § 138, with implementing regulations at 23 CFR §774.

The Department understands that the Federal Transit Authority (FTA) is funding the replacement of WMATA's Northern Bus Garage (historically known as the Capital Traction Company Car Barn,), located at 4615 Fourteenth Street, NW. A portion of the Northern Bus Garage consists of the former Capital Traction Company Car Barn, which has been listed in the National Register of Historic Places (NRHP). Current operational and programmatic challenges require facility improvements in order to meet WMATA's goals of modernization, sustainability, increased community integration, and flexibility for the needs for both electric and diesel buses. Under Section 4(f), historic properties listed in or eligible for the NRHP are considered Section 4(f) resources.

WMATA's goals for rehabilitation of the Northern Bus Garage will better facilitate its needs for modernization, sustainability, increased community integration, and flexibility for use by both electric buses and diesel buses. As part of Section 4(f), FTA was required to consider alternatives that completely avoid a "use" of Section 4(f) properties. WMATA has conducted analysis to identify potential *feasible and prudent avoidance alternatives*. Three such potential alternatives were identified: No Action Alternative (the no-build alternative); relocating Northern Bus

Garage to the grounds of Walter Reed Army Medical Center; and relocating Northern Bus Garage to the grounds of the Armed Forces Retirement Home.

Through their analysis it was determined that the No Action Alternative did not meet the WMATA's goals for the project and that both the Walter Reed Medical Center and the Armed Forces Retirement Home alternatives would cause severe social, economic, environmental impacts; would result in unacceptable operational problems; and additional maintenance and operational costs of an extraordinary magnitude, this alternative would not be a feasible and prudent avoidance alternative.

WMATA also evaluated the area surrounding the existing Northern Bus Garage location for other potential avoidance alternative sites. The areas nearer to the existing Northern Bus Garage, however, are highly developed, consisting primarily of either public parks or potentially historic residential and commercial buildings. Siting a facility large enough to accommodate WMATA's needs any closer than the potential avoidance alternatives detailed below would require either the use of a public park or demolition of buildings potentially eligible for the National Register of Historic Places, making that alternative not an avoidance alternative, as required by Section 4(f).

As part of this planning effort, FTA initiated Section 106 consultation with the District of Columbia Historic Preservation Office (DC SHPO) on April 19, 2019. That process included the development of minimization and mitigation measures designed to protect and restore historic features and materials of the Car Barn. WMATA identified and documented the remaining historic fabric of the building, including both interior and exterior spaces, and developed concept designs that will restore the Fourteenth Street facade. WMATA will also retain portions of the north and south elevations of the Car Barn. WMATA will set back the new construction from the wings, separating the new construction from the original form of the Car Barn, which will allow it to read like a historic building rather than a mere facade. Original windows and roofing removed and replaced with non-historic materials in twentieth century renovations will be restored to the historic appearance. The arcade openings and tower will also be preserved. The cumulative result of these measures will be to enhance the design characteristics of the principal facade that have primarily contributed to the building's significance for architectural design.

With regard to the draft Section 4(f) Evaluation, the Department understands there are no feasible and prudent alternatives that avoid the use of Section 4(f) properties, and that WMATA's preferred site, the Capital Traction Company Car Barn, is the alternative that causes least harm. In addition, the Department also agrees the project will result in an adverse effect under NHPA Section 106 and that WMATA will further minimize and mitigate adverse effects to the Section 4(f) property through implementing the measures of the Section 106 MOA.

Given that the Section 4(f) properties are directly located within the area needing to be rehabilitated, based on the information provided in this draft document the Department concurs with the WMATA initial findings that there is no feasible and prudent alternative to the Capital Traction Company Car Barn site.

The Department appreciates the opportunity to provide these comments. For continued coordination with the Department, please contact Tammy Stidham, Deputy Associate Area

Director - Lands and Planning, at [Tammy Stidham@nps.gov](mailto:Tammy_Stidham@nps.gov). Please contact me at (617) 223-8565 or at andrew_raddant@ios.doi.gov. if I can be of further assistance.

Sincerely,

Andrew L. Raddant
Regional Environmental Officer

APPENDIX 10: NOISE AND VIBRATION ANALYSIS

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Contract FQ15190
Task Order No: CIP-19-FQ15190-ENGA-001

WMATA Northern Bus Garage

Noise and Vibration Impact Assessment Technical Report

March 2022



Washington Metropolitan Area Transit Authority

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1 INTRODUCTION

The Washington Metropolitan Area Transit Authority (WMATA) plans to replace the existing Northern Bus Garage at 4615 14th Street NW in Washington, DC. Replacement of the existing bus garage is necessary as the existing facility has met its useful life and structural improvements are needed in order to maintain efficient storage/maintenance, replace deteriorating concrete conditions, better accommodate articulated buses, and reduce deadheading (non-revenue service). The existing facility is currently closed. Construction of the replacement garage is expected to begin in 2022 and be completed by 2026.

The facility is located on an approximately 5.25-acre site in northwest Washington, DC. The garage is bounded by 14th Street NW, Buchanan Street NW, Arkansas Avenue NW, and Iowa Avenue NW. WMATA plans to demolish the existing garage but maintain the building façade (constructed in 1906) along 14th Street NW. The replacement garage would be located entirely within the existing footprint of the current garage. The storage and maintenance capacity of the replacement garage would be 150 buses which is 25 fewer buses than the current capacity of 175 buses.

The upgraded facility relocates a portion of current employee parking from on-street parking in the surrounding neighborhood to on-site parking. Currently, there are 212 on-site parking spaces for employees and non-revenue vehicles. The proposed project would include 306 onsite parking spaces for employees and non-revenue vehicles as well as 20 parking spaces for retail employees on the roof of the new facility.

The new facility will continue to provide services such as cleaning (interior and exterior), inspections, fueling and washing, running repairs, parts storage, crew reporting and dispatching, and employee service and welfare areas. However, previous heavy repairs and paint booth services will no longer be conducted at the facility as a mitigation in response to community feedback. The detailed project concept is shown in **Figure 1-1**. The new facility will accommodate bus technology consisting of clean diesel, hybrid electric diesel, and battery electric buses (BEB).

This technical report includes the following:

- background information on noise and vibration descriptors,
- methodologies used to evaluate operational and construction-period noise and vibration,
- results of ambient sound measurements in the study area,
- predictions of future operational noise and construction noise and vibration conditions with the proposed Project,
- an assessment of potential impact according to applicable criteria, and
- an evaluation of the need for and potential effectiveness of mitigation recommendations.

Figure 1-1: Detailed Project Concept (Proposed Conditions)



1.1 BACKGROUND ON NOISE AND VIBRATION DESCRIPTORS

1.1.1 NOISE

Noise is defined as unwanted or excessive sound. Sound becomes unwanted when it interferes with normal activities such as sleep, work, or recreation. How people perceive sound depends on several measurable physical characteristics. These factors include:

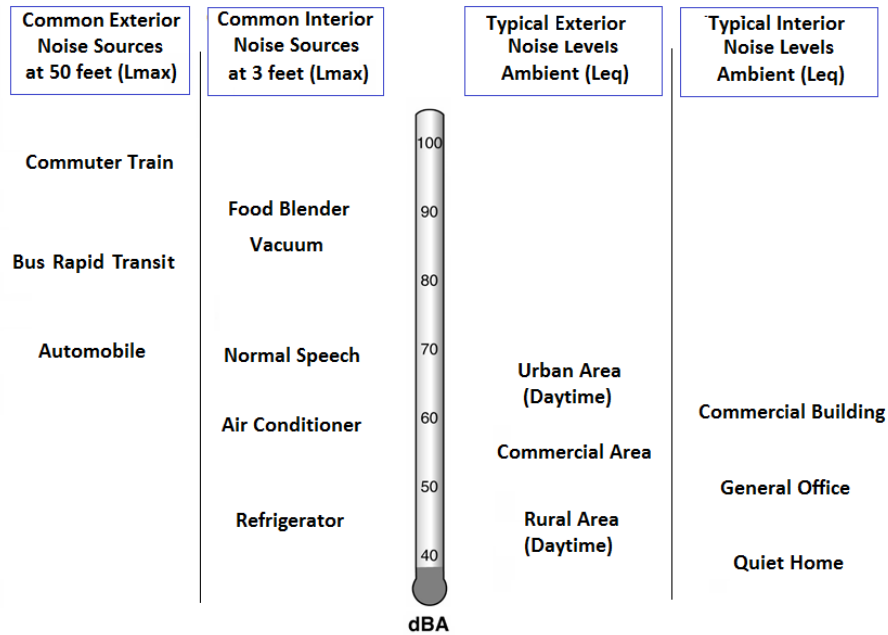
- Level - Sound level is based on the amplitude of sound pressure fluctuations and is often equated to perceived loudness.
- Frequency - Sounds are comprised of acoustic energy distributed over a variety of frequencies. Acoustic frequencies, commonly referred to as tone or pitch, are typically measured in Hertz (Hz). Pure tones have energy concentrated in a narrow frequency range and can be more audible to humans than sounds with a broad range of frequencies. Sound levels are most often measured on a logarithmic scale of decibels (dB). The decibel scale compresses the audible acoustic pressure levels which can vary from the threshold of hearing (0 dB) to the threshold of pain (120 dB). Because sound levels are measured in dB, the addition of two sound levels is not linear. Adding two equal sound levels results in a 3 dB increase in the overall level. Research indicates the following general relationships between sound level and human perception:
 - A 3-dB increase is a doubling of acoustic energy and is the threshold of perceptibility to the average person.
 - A 10-dB increase is a tenfold increase in acoustic energy and is perceived as a doubling in loudness to the average person.

Audible sound is comprised of acoustic energy over a range of frequencies typically from 20 to 20,000 Hz. The human ear does not perceive sound levels at each frequency as equally loud. To compensate for this phenomenon in perception, a frequency filter known as A weighting (dBA) is used to evaluate environmental noise levels. **Figure 1-2** presents a list of common outdoor and indoor sound levels.

Because sound levels change over time, a variety of sound level metrics can be used to describe environmental noise. The following is a list of sound level descriptors used in the noise analysis:

- Lmax is the maximum sound level generated by a source and does not account for how long the sound event occurs.
- Leq is the energy-average A-weighted sound level. The Leq is a single value that is equivalent in sound energy to the fluctuating levels over a period of time. Therefore, the Leq considers how loud noise events are during the period, how long they last, and how many times they occur. Leq is commonly used to describe environmental noise and relates well to human annoyance.
- Ldn is the day-night equivalent sound level. Similar to the Leq, the Ldn is a single value that is equivalent in sound energy to the fluctuating levels over a period of time and takes into account how loud noise events are, how long they last, and how many times they occur. The Ldn encompasses all sounds that are generated over a 24-hour period including a 10-decibel penalty for sounds that occur during the night (10 PM and 7 AM) to account for the increased sensitivity of people during typical sleeping hours.
- SEL is the sound exposure level. The SEL is a measure of the cumulative sound exposure from an event, such as a bus pass-by, that accounts for how loud an event is and how long it lasts. SELs are the building blocks used to compute Leq and Ldn sound levels.

Figure 1-2 Common Indoor and Outdoor Sound Levels



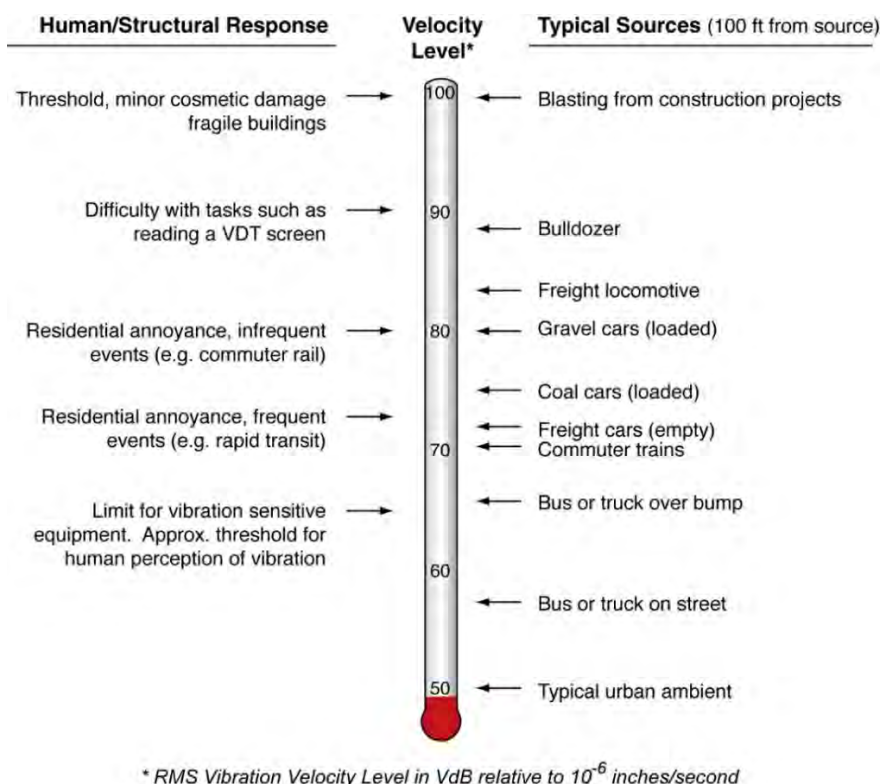
Source: FTA 2018, VHB 2020.

1.1.2 VIBRATION BACKGROUND

Ground-borne vibration is defined as the oscillatory motion of the ground. Vibration can be caused by heavy vehicles (i.e., buses, trucks, or trains) or by stationary construction equipment (i.e., impact pile driving, hoe rams, etc.). Vibration is commonly described in terms of velocity because it corresponds to how humans perceive vibration and the potential for structural damage to buildings.

Vibration levels from transit operations are often expressed in decibel notation as “VdB” to differentiate them from sound decibels. As shown in **Figure 1-3**, humans typically perceive vibration at 65 VdB, human annoyance can occur between 70 and 80 VdB, and the threshold the minor cosmetic damage of fragile buildings is approximately 100 VdB. Vibration levels from construction activities are often expressed as either decibels (VdB) or in peak-particle-velocity (PPV) in inches per second.

Figure 1-3 Typical Vibration Levels and Sources



Source: FTA 2018.

1.2 ASSESSMENT METHODOLOGY

The noise and vibration impact assessment has been conducted according to the FTA's guidance manual. The first step is to evaluate the level of assessment that is warranted due to the proposed Project. The FTA has three levels of impact assessment including a noise and vibration screening procedure, FTA General noise and vibration impact assessments, and FTA Detailed noise and vibration impact assessments. The screening procedure involves evaluating whether the proposed project has the potential to change operational noise or vibration conditions in the study area and, if so, whether there are noise sensitive receptors within the screening distances. As the facility is currently non-operational, existing noise conditions are determined based on the ambient noise conditions as measured in the field (December 2021) combined with the noise contributions from buses and automobiles traveling to and from the bus facility when the facility was last at peak operational status (June 2018). This approach was utilized in order to best represent the ambient conditions during the peak operational period, prior to the facility being closed, and to improve the accuracy of the noise and vibration impact determination. If there are receptors in the screening distance, there is the potential for noise or vibration impact and an FTA General assessment is usually warranted. FTA General assessments are typically conducted to evaluate potential impact for Categorical Exclusions or Environmental Assessments. Depending on the potential for impact, FTA Detailed assessments are generally only needed for Environmental Impact Statements.

1.2.1 STUDY AREA AND NOISE AND VIBRATION SCREENING

The proposed Project would slightly decrease the bus capacity of the facility compared to the 2018 operational conditions, increase the number of employee and retail parking spaces, and modify access points along the perimeter to increase safety and security. The proposed facility will remain fully

enclosed and employee parking will be located on the third floor open-air parking deck. These changes to the facility have the potential to change noise conditions which may adversely affect nearby noise-sensitive receptors.

The FTA noise screening distance for a bus facility with storage and maintenance is 350 feet from the outer boundary of the facility where there are no intervening buildings, and 225 feet where there are intervening buildings. Noise receptors within these screening distances include nearby residences west of 14th Street NW, Delafield Place NW, Iowa Avenue NW, Arkansas Avenue NW, Buchanan Street NW, and Decatur Street NW, and a church on Buchanan Street NW. Therefore, an FTA General noise assessment is warranted to assess potential impact and evaluate the need for mitigation.

The FTA vibration screening distance for bus projects is 50 feet for residential land uses and 100 feet for vibration-sensitive land uses such as research facilities with vibration-sensitive equipment, theaters or concert halls. There are no vibration-sensitive uses within 50 feet of the proposed Project. Buses generate vibration; however, because they are rubber-tired vehicles with suspension systems, it is unusual for buses to cause significant vibration. Typically, if perceptible vibration is generated from buses it is due to airborne sound from the bus exhaust causing windows to rattle or due to unusual discontinuities in the road surface such as potholes, bumps, or expansion joints. **Therefore, there will not be operational vibration impact and no further analysis is warranted.**

1.2.2 GENERAL NOISE ASSESSMENT METHODOLOGY

The FTA General assessment methodology includes defining the study area for noise and vibration assessment, identifying noise-sensitive receptors, characterizing the existing conditions through ambient sound measurements, predicting the potential increase in future noise conditions, assessing impact according to applicable criteria, and recommending mitigation measures, as needed.

Study Area and Receptors

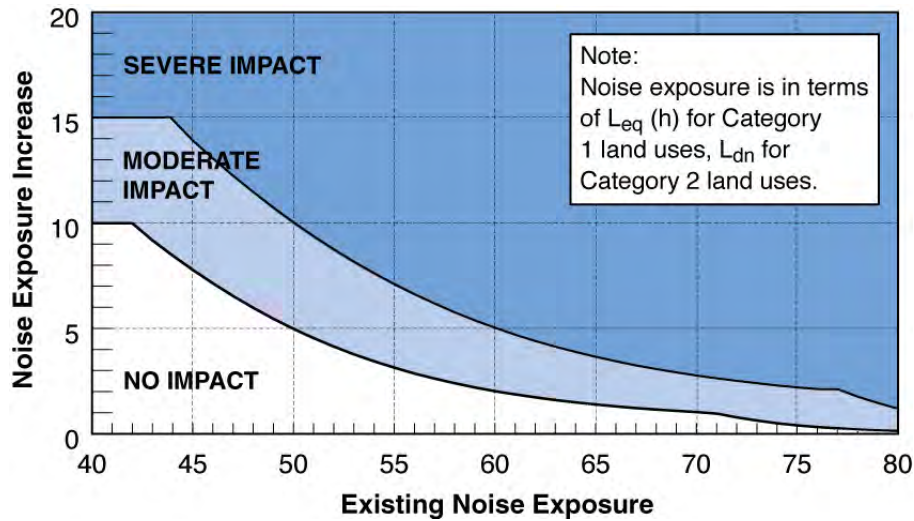
The study area for assessing noise includes sensitive receptors within 350 feet from the proposed facility. This includes residences, schools, and churches in the area. The FTA categorizes noise-sensitive land uses into the following three categories:

- Category 1: Buildings or parks where quiet is an essential element of their purpose.
- Category 2: Residences and buildings where people normally sleep. This includes residences, hospitals, and hotels where nighttime sensitivity is assumed to be of utmost importance.
- Category 3: Institutional land uses with primarily daytime and evening use where noise could interfere with concentration, meditation or reading activities. This category includes schools, libraries, churches and parks with passive recreational use.

Noise Impact Criteria

Noise impact criteria for transit operations are defined by the FTA and are founded on well-documented research on community reaction to noise. Since the proposed Project would change existing noise sources associated with the existing facility, noise impact has been assessed based on the increase in cumulative noise levels. As shown in **Figure 1-4**, FTA noise impact criteria are based on the potential for noise to increase due to the proposed Project. Impact is based on a comparison of the Existing noise levels with the noise increase. The FTA defines two levels of noise impact: moderate and severe. Severe noise impacts have the greatest adverse impact on the community and mitigation should be strongly considered. Areas with Moderate noise impact also have the potential for effects on the community and mitigation should be considered and implemented when considered reasonable and feasible depending on factors such as whether the mitigation would be safe, constructible, acoustically effective and cost-effective.

Figure 1-4 FTA Noise Impact Criteria



Source: FTA 2018.

Ldn is used to characterize noise exposure for residential areas (Category 2). For other noise sensitive land uses, such as schools and churches (Category 3), the maximum 1-hour Leq during peak transit activity which also coincides with the facility's operating period is used. For example, if a school is in operation between 8 A.M. and 3 P.M., the maximum 1-hour Leq would typically be during the peak morning transit service between 8 A.M. and 9 A.M.

Noise Predictions

Noise predictions include the contribution buses and automobiles that would travel to and from the bus facility, the rooftop parking, and other ambient sources which typically include background traffic noise. Existing and Future noise levels from the proposed bus facility have been predicted based on the methods described in the FTA guidance manual for General Assessment to determine changes in the future cumulative noise level. This includes predicting the change in noise between the existing and proposed bus operating facility including the bus movements to and from the facility and rooftop parking operations.

The FTA methodology for predicting noise is based on the number of buses and automobiles that access the facility per hour during the day and night and the number of parking spaces. Noise from these sources is predicted at nearby receptor locations based on the distance from the receptors to the center of the parking areas and whether there are intervening buildings that would attenuate sound. Sound from the diesel bus movements are based on an SEL of 82 dBA at 50 feet and 50 mph with a speed coefficient (which adjusts sound level for bus speed) of 15. The following equation is used to predict daytime and nighttime Leq sound levels from the proposed parking area source.

$$\text{Parking Area: } Leq_{at 50 \text{ feet}} = SEL_{at 50 \text{ feet}} + 10 \left(\frac{N_A}{1000} \right) - 35.6$$

Where,

$$N_A = \text{number of automobiles per hour during the day or night}$$

The 2018 capacity of the bus facility when the facility was previously operational, was 175 buses and the proposed facility is 150 buses. There would be a total of approximately 405 incoming and outgoing bus movements at the facility per day with 270 bus movements during the daytime (7:00 AM to 10:00

PM) and 135 bus movements during the nighttime (10:00 PM to 7:00 AM). There would be 45 hourly bus movements during the peak periods, with approximately 23 buses per hour entering at the southern access point and 23 buses per hour exiting at the northern access point. It is assumed that 39 hourly employee trips in and out of the parking deck would occur during the day and 30 at night.

2 NOISE MEASUREMENT RESULTS

Ambient sound measurements were conducted for one hour in duration each on December 2, 2021 and December 3, 2021 at five locations (Sites M1 to M5) representative of sensitive land use in the study area as shown in **Figure 2-1**. Measurement locations were selected based on their proximity to previously existing and proposed noise sources at the facility as well as the need to be representative of the various noise-sensitive land uses within the study area. The measurements were conducted with a Larson Davis model LxT which meets Type 1 accuracy according to the American National Standards Institute. The meter was calibrated in the field and by a laboratory traceable to the National Institute of Standards and Technology. Measurements were conducted for one hour during the midday period at each location. Observations were made of the predominant sources of sound and atmospheric conditions including temperature, wind speed, wind direction, and precipitation. Traffic counts were conducted by vehicle type and speed at all locations.

The ambient sound measurements ranged from 51.2 to 66.4 dBA (Leq). Day-night average sound levels were estimated based on the one-hour daytime measurements according to the FTA method of Ldn being 2 dBA less than the daytime Leq. The estimated day-night average sound levels ranged from 49.2 to 64.4 dBA (Ldn). The predominant sources of sound were background traffic noise.

Table 2-1 Noise Measurement Results

Site	Address	Start Time	Hourly-Equivalent Sound Level (Leq, dBA)	Estimated Day-Night Average Sound Level (Ldn, dBA)
M1	4805 14th St NW	11:18 AM	64.3	62.3
M2	4701 Iowa Ave	11:24 AM	63.2	61.2
M3	4704 13th St NW	12:42 PM	57.0	55.0
M4	1350 Buchanan St NW	1:53 PM	66.4	64.4
M5	1416 Buchanan Ave NW	10:12 AM	51.2	49.2

Source: VHB 2022.

Figure 2-1 Noise Measurement Locations



2.1 NOISE IMPACT ASSESSMENT RESULTS

Table 2-2 and **Figure 2-2** present the results of the noise impact assessment conducted at 20 nearby noise-sensitive receptors. Noise receptors were selected based on land use, bus access points to the facility, bus routes, and proximity to bus facility noise sources within the 350-foot screening distance. Measured noise levels were applied to receptor locations based on land use, their proximity to similar existing noise sources, setback distances from existing noise sources, and the proximity of the measurement location to the receptor location. The table includes the land use category, address, the measurement location applied to each receptor, 2021 ambient noise level measured in the field, the noise level based on the bus operations in June 2018, the future condition (2026) noise level, the moderate and severe impact criteria based on the 2018 noise level, increase in noise level, and impact determination.

Noise levels from June 2018 include ambient noise measured in December 2021 combined with previous 2018 bus facility operational noise contributions (modeled based on facility operations at the time). The noise impact assessment shows that June 2018 noise levels range from 49.7 to 64.8 dBA (Ldn) at Category 2 land uses and ranged from 57.0 to 67.3 dBA (Leq) at Category 3 land uses.

The thresholds for moderate noise impact range from an increase of 1.4 to 5.1 dBA (Ldn) for Category 2 land uses and from 3.0 to 5.6 dBA (Leq) at Category 3 land uses. The future noise levels (which includes the 2021 ambient noise and the contribution from future bus facility noise sources) would range from 49.9 to 64.5 dBA (Ldn) at Category 2 land uses and from range from 57.0 to 67.3 dBA at Category 3 land uses.

The proposed Project would not increase noise levels at any nearby receptors. The Project would even decrease noise levels by up to 0.3 dBA at some of the closest receptors located near 14th Street NW and Decatur Street NW (R1, R2, and R19).

No moderate noise impacts and no severe noise impacts are expected to occur due to the proposed project and mitigation measures are not warranted. WMATA has committed to measures to minimize noise generated by the facility, including reducing the number of buses operating out of the facility from 175 to 150, reducing noise pollution due to rooftop mechanical units by completely enclosing the units on the west side and locating units on the east side behind a brick screen.

Table 2-2 Noise Impact Assessment Results

Receptor	Land Use Category	Address	Measurement Location	June 2018 ¹ Noise Level (dBA) ^A	Future ² Noise Level (dBA) ^A	Noise Increase Impact Criteria Based on 2018 Noise Level		Noise Increase (June 2018 to Future) (dBA) ^A	Impact
						Moderate (dBA) ^A	Severe (dBA) ^A		
1	2	4805 14th St NW	M1	64.8	64.5	1.4	3.6	-0.3	None
2	2	4804 14th St NW	M1	64.3	64.0	1.4	3.7	-0.3	None
3	2	1402 Delafield Pl NW	M1	62.3	62.3	1.6	4.3	0.0	None
4	2	1401 Delafield Pl NW	M1	63.4	63.2	1.5	4.0	-0.2	None
5	2	4817 14th St NW	M1	63.4	63.2	1.5	4.0	-0.2	None
6	2	4807 Iowa Ave NW	M2	61.3	61.3	1.8	4.6	0.0	None
7	2	1314 Decateur St NW	M2	61.2	61.2	1.8	4.6	0.0	None
8	3	4704 13th St NW	M3	57.0	57.0	5.6	10.4	0.0	None
9	2	4613 Arkansas Ave NW	M4	64.4	64.4	1.4	3.7	0.0	None
10	2	1318 Buchanan St NW	M4	64.4	64.4	1.4	3.7	0.0	None
11	2	4501 Arkansas Ave NW	M4	64.4	64.4	1.4	3.7	0.0	None
12	2	1325 Allison St NW	M4	64.4	64.4	1.4	3.7	0.0	None

Receptor	Land Use Category	Address	Measurement Location	June 2018 ¹ Noise Level (dBA) ^A	Future ² Noise Level (dBA) ^A	Noise Increase Impact Criteria Based on 2018 Noise Level		Noise Increase (June 2018 to Future) (dBA) ^A	Impact
						Moderate (dBA) ^A	Severe (dBA) ^A		
13	3	1350 Buchanan St NW	M4	67.3	67.3	3.0	6.4	0.0	None
14	2	4425 14th St NW	M4	64.4	64.4	1.5	3.8	0.0	None
15	2	4420 14th St NW	M1	62.4	62.4	1.7	4.3	0.0	None
16	2	4510 14th St NW	M1	63.7	63.5	1.5	4.0	-0.2	None
17	2	1404 Buchanan St NW	M5	49.9	49.8	5.0	10.1	-0.1	None
18	2	1406 Crittenden St NW	M5	49.7	49.6	5.1	10.2	-0.1	None
19	2	4724 14th St NW	M1	64.8	64.5	1.4	3.6	-0.3	None
20	2	1406 Decateur St NW	M1	62.3	62.3	1.6	4.3	0.0	None

¹ June 2018 Noise Level modeled based on 2021 ambient conditions and June 2018 bus operations

² Future Noise Level modeled for opening year (2026)

^A Noise levels are reported in Ldn for land use Category 2 and Leq for land use Category 3

Source: VHB 2022.

Figure 2-2 Noise Receptor Locations



2.2 CONSTRUCTION NOISE AND VIBRATION

2.2.1 CONSTRUCTION NOISE AND VIBRATION ORDINANCES AND STANDARDS

The FTA has guideline construction noise impact criteria; however, they are only used in locations where there are no local or state construction noise ordinances. Since there are local noise ordinances in the study area, FTA guideline criteria have not been used.

The District noise ordinance prohibits construction sound levels above 80 dBA (Leq) (except for pile driving) 25 feet from the outermost limits of the site between 7:00 AM and 7:00 PM unless the District grants a variance. From 7:00 PM to 7:00 AM, the District may limit construction activities to 65 dBA (Lmax) 25 feet from the outermost limits of the construction site for noise originating in an industrial zone.¹

Vibration generated by construction equipment has the potential to cause structural damage to buildings in very close proximity to construction activities and to annoy persons in nearby buildings. Certain construction activities have the potential for structural damage to nearby buildings such as those associated with drilling, earthwork, or concrete removal. The potential for an increased risk of damage from vibration depends on the specific construction activity and how the existing building is constructed. FTA criteria for potential structural damage are shown in **Table 2-3** in both vibration level (VdB) and peak-particle velocity (PPV) measured in inches per second.

Table 2-3 FTA Vibration Criteria for Potential Structural Damage

Building Category	Vibration Level (VdB)	Peak-Particle Velocity (in/s)
I. Reinforced-concrete, steel, or timber	102	0.5
II. Engineered concrete and masonry	98	0.3
III. Non-engineered timber and masonry	94	0.2
IV. Buildings extremely susceptible to vibration damage	90	0.12

Source: FTA 2018.

2.2.2 CONSTRUCTION NOISE ASSESSMENT

Construction noise predictions are based on the equipment typically used and the average utilization factors or duty cycles (i.e. the percentage of time during operating hours that the equipment operates under full power during each phase). Construction noise is based on the 8-hour Leq noise exposure over a typical construction period. Since construction noise is evaluated for typical conditions over a relatively long period of time, noise levels are predicted relative to the center of the construction area. Construction noise is assessed according to the District noise ordinance, which is a daytime limit of 80 dBA (Leq), at a distance of 25 feet from the outermost limits of the site which is approximately 250 feet or farther from the center of construction activities.

The specific construction equipment and methods that would be used for this project will be determined by the contractor. Equipment that would generally be used for this type of construction include and air compressor, backhoe, back-up alarms, concrete mixer, crane, dump truck, excavator, hoe ram, paver, and drill rig.

¹ DC Municipal Regulations Chapters 20–27.

Table 2-4 presents the equipment, maximum sound level, utilization factor, and Leq sound level typically used for constructing new maintenance buildings and parking decks. This table shows that construction noise 50 feet away would typically be 89 dBA (Leq). Based on sound propagation of 6-decibel reduction per doubling of distance, construction noise levels at 25 feet from the boundary of the facility would typically be 75 dBA (Leq). These construction noise levels are below the District noise ordinance of 80 dBA during the daytime and therefore no construction noise mitigation is warranted.

Table 2-4 Construction Noise Predictions

Equipment	Maximum Sound Level at 50 feet (dBA)	Utilization Factor	8-hr Equivalent Sound Level at 50 feet (dBA)
Air Compressor	80	40	76
Backhoe	80	40	76
Back-up Alarm	85	5	72
Concrete Mixer	85	40	81
Crane	85	16	77
Dump Truck	84	40	80
Excavator	85	40	81
Hoe Ram	90	10	80
Paver	85	50	82
Drill Rig	84	20	77
Total Construction Noise at 50 feet (Leq8h)			89
Total Construction Noise at 250 feet (25 feet from boundary) (Leq8h)			75

Source: FHWA 2006, FTA 2018, and VHB 2021.

2.3 CONSTRUCTION VIBRATION ASSESSMENT

Construction vibration is typically generated by earth-moving equipment such as loaded trucks and bulldozers, impact equipment such as hoe rams, and drilling rigs for setting foundations for the parking deck. As shown in **Table 2-5**, the distances away from this equipment where there is an increased risk of structural damage to nearby buildings is 20 feet or less depending on the sensitivity of the building to vibration. Since all the surrounding buildings are more than 40 feet from the project site, there is not a risk of structural damage from construction activities. Additionally, the final design for the facility has eliminated the need for blasting activities during construction, thereby further reducing the potential for vibration risk to surrounding structures.

Table 2-5 Typical Construction Vibration Sources Levels and Distances

Equipment	PPV at 25 feet (in/sec)	Distance to exceeding FTA criterion (feet)			
		Type I 0.5 in/s	Type II 0.3 in/s	Type III 0.2 in/s	Type IV 0.12 in/s
Loaded Truck	0.076	7	10	14	18
Small Bulldozer	0.003	1	1	2	2
Large Bulldozer	0.089	8	11	15	20
Hoe Ram	0.089	8	11	15	20
Drilling Rig	0.089	8	11	15	20

Source: FTA 2018 and VHB 2021.

2.4 CONSTRUCTION VIBRATION MONITORING

Vibration will be monitored via seismographs placed at the perimeter of the project at least 30 days prior to the start of construction to establish a baseline for comparison to construction-related vibration. All properties within 200 feet of the bus facility's property boundary will be offered the opportunity to receive a pre-existing condition survey prior to the start of construction. This survey will cover both the interior and exterior of the property being surveyed. Invitations to property owners will be sent 90 days prior to the start of construction.

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APPENDIX

Noise Measurement Site Photos

Measurement Site M1



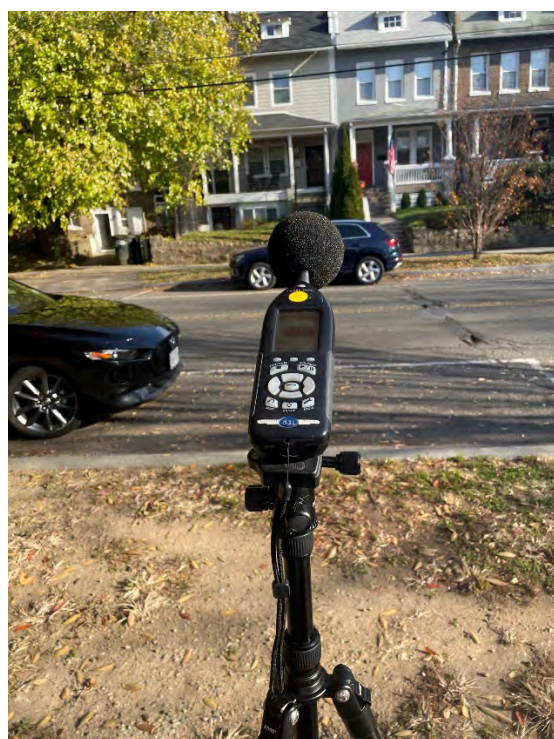
Noise Measurement M2



Measurement Site M3



Noise Measurement M4



Measurement Site M5



APPENDIX 11: HAZARDOUS MATERIALS SURVEYS

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GOVERNMENT OF THE DISTRICT OF COLUMBIA

Department of Energy and Environment
Environmental Services Administration



TOXIC SUBSTANCES DIVISION

UNDERGROUND STORAGE TANK BRANCH

NO FURTHER ACTION LETTER

September 28, 2017

Ms. Carla Grano
Washington Metropolitan Area Transit Authority
Office of Environmental Management & Industrial Hygiene
3500 Pennsy Drive
Landover, MD 20785

Re: FACILITY NAME: WMATA Northern Bus Division
FACILITY ADDRESS: 4615 14th Street, NW, Washington, DC 20011
FACILITY ID #: 4000709
LUSTCASE #: 89018

Dear Ms. Grano:

The Department of Energy and Environment (DOEE), Underground Storage Tank Branch (“UST Branch”), hereby issues this No Further Action Letter (NFA) in reference to the property located at 4615 14th Street NW, Washington, DC 20011 (“the Site”), for which Washington Metropolitan Area Transit Authority (WMATA), is listed as the Responsible Party (the “RP”), pursuant to the Underground Storage Tank Management Act of 1990 (D.C. Code § 8-113.01 *et seq.*) (the “Act”), and the District of Columbia Underground Storage Tank Regulations, as set forth at Title 20 of the District of Columbia Municipal Regulations (DCMR), Chapters 55-70.

The UST Branch has reviewed all information pertaining to the release and clean-up of regulated substances from the former underground storage tank system at the Site for consideration of no further action status. The most recent information submitted includes Letter Report for Closing Request and Quarterly Groundwater Monitoring Reports for 2017. To date, remediation at the Site made significant progress to remove free product and other residual contaminants. Residual LNAPL in monitoring wells, MW-3A and MW-8, remains present at last gauging event (December 28, 2016). However, as documented in the LNAPL Site Conceptual Model dated January 28, 2015 which includes LNAPL Tiered Risk Assessment, Plume Stability, and residual LNAPL is below established recoverability norms, and includes a holistic review of LNAPL characterization at the Site. DOEE concurs that LNAP is stable and relatively immobile for the purpose of establishing case closure.

Based on the information reviewed, it is the judgment of DOEE, UST Branch, that presently the residual contamination left in place at the Facility does not pose a threat to human health or the

environment. Accordingly, the UST Branch finds that **no further action** is necessary at the Facility for the Leaking Underground Storage Tank (LUST) Case # 89018.

The RP is responsible for removing all equipment and ensuring that monitoring wells are closed down, removed, grouted, and sealed properly in accordance with 20 DCMR § 6211.7, except monitoring wells MW-3A, MW-8, and MW-18 for the purpose of possible future long-term monitoring. These wells shall be closed with a waterproof sealed and locked well cap. Please note that approval from the DOEE Water Quality Division is required for well abandonment of all other monitoring wells.

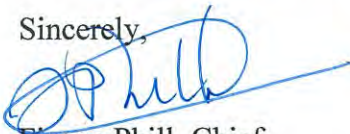
In the event that additional work is performed at the Facility that results in additional removal, disturbance, exacerbation, or excavation of residual contamination, constituting a release, then the person performing the work must report that release to this office, as required by 20 DCMR § 6202. Failure to do so may result in an enforcement action, pursuant to the Act and the regulations promulgated pursuant to the Act.

While District of Columbia has complied with the current LUST case closure requirements, the Act, and the regulations promulgated pursuant to the Act, this NFA shall not absolve the owner, operator, or a responsible party from previously incurred or potential future liability due to any residual contamination left in place.

Please note that DOEE is required to publish success stories in brochures, fact sheets, and on our website of District sites cleaned up and returned to productive use. As such, this Facility may be chosen for this purpose. Please inform our office in writing if you have any objections or concerns with DOEE using this Facility.

Should you have any question about this NFA, please call Nazmul Haque at 202-535-1330 or send an email to Nazmul.Haque@dc.gov.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Fianna Phill', with a long horizontal flourish extending to the right.

Fianna Phill, Chief
Underground Storage Tank Branch

cc: Ms. Anna Hovsepyan, URS Corporation (via e-mail)

CONNOR

ENVIRONMENTAL
SERVICES AND
ENGINEERING
ASSESSMENTS

PREPARED FOR:

**WASHINGTON METROPOLITAN AREA
TRANSIT AUTHORITY
3101 EISENHOWER AVENUE
ALEXANDRIA, VIRGINIA 22314**

**ASBESTOS-CONTAINING MATERIALS SURVEY
AT
NORTHERN BUS DIVISION
4615 14TH STREET, NW
WASHINGTON, D.C. 20011**

ENVIRONMENTAL SITE
ASSESSMENTS

ENGINEERING,
STRUCTURAL AND
MECHANICAL INSPECTIONS

LEAD PAINT SURVEYS

RISK ASSESSMENTS

CAPITAL NEEDS
ASSESSMENTS

ASBESTOS SURVEYS

EXPERT TESTIMONY

LEAD HAZARD
REDUCTION SUPPLIES

TRAINING

CLEANING SERVICES

PREPARED BY:

**CONNOR ENVIRONMENTAL SERVICES
AND ENGINEERING ASSESSMENTS
BARE HILLS BUSINESS CENTER
1421 CLARKVIEW ROAD, SUITE 100
BALTIMORE, MARYLAND 21209-2188**

CONTRACT NO.:

C74335 – ACM & LBP INSPECTIONS

RELEASE NO.:

C74335-005

SURVEY DATE:

JUNE 3-4, 1998

BARE HILLS BUSINESS CENTER
1421 CLARKVIEW ROAD
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80940404

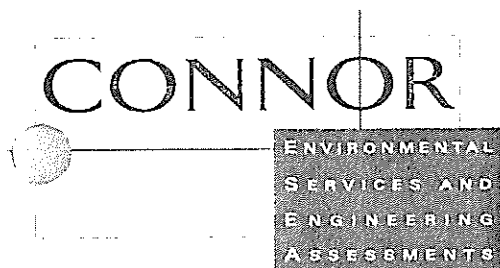


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EXECUTIVE SUMMARY

On June 3-4, 1998, CONNOR Environmental Services & Engineering Assessments, a division of MIRCON, Inc., (the "Consultant") conducted an Asbestos-Containing Material (ACM) Survey at the Northern Bus Division. The following buildings were included in the survey:

- o Northern Bus Division
- o Regional Office Building

The following table shows all asbestos-containing materials, their location and their quantity as well as the condition and the method used to determine the presence of asbestos. The locations are presented on the maps in Appendix D.

MATERIAL	LOCATION	QUANTITY	CONDITION	METHOD
Orange 12" x 12" vinyl floor tiles	Transportation – telephone room	48 SF	Good	Laboratory analysis
Orange 12" x 12" vinyl floor tiles	Transportation – electrical room	48 SF	Good	Laboratory analysis
Orange 12" x 12" vinyl floor tiles	Transportation – storage room #1	100 SF	Good	Laboratory analysis
Orange 12" x 12" vinyl floor tiles	Transportation – vending room	480 SF	Good	Laboratory analysis
Orange 12" x 12" vinyl floor tiles	Transportation – lounge	2,220 SF	Good	Laboratory analysis
Orange 12" x 12" vinyl floor tiles	Transportation – office	190 SF	Good	Laboratory analysis
Green with white specks 12" x 12" vinyl floor tiles and mastic	Transportation – office	280 SF	Good	Laboratory analysis
Green with white specks 12" x 12" vinyl floor tiles and mastic	Transportation – men's locker room	1,100 SF	Good	Laboratory analysis
Roofing material	Roof	200,000 SF	Good	Assumed
Fire doors	Throughout	50 EA	Good	Assumed

INTRODUCTION

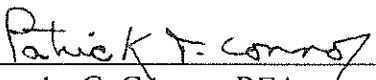
CONNOR Environmental Services & Engineering Assessments, a division of MIRCON, Inc., (the "Consultant") contracted with Washington Metropolitan Area Transit Authority (WMATA) (the "Client") to conduct Asbestos-Containing Materials Survey of the Northern Bus Division (the "Project Site"). The scope-of-services were outlined in the proposal dated November 13, 1997. These services have been incorporated into the Asbestos-Containing Materials Survey.

The purpose of this report ("Asbestos-Containing Materials Survey") is limited to providing the Client a limited environmental assessment concerning environmental conditions, specified in the report, and evident at the site at the time of the assessment. This Asbestos-Containing Materials Survey is designed only for the identification of environmental conditions and shall not be utilized for remediation or abatement. Consultant does not assume responsibility for the discovery and elimination of potential hazards that could cause accidents, injuries, or damage. This assessment includes conditions, operations, and practices as observed during the site walk through. Changes, procedural modifications, or facility renovations made after the site assessment are not included.

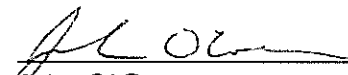
Surveyed by: John O'Connor

Written by: John O'Connor

Reviewed by: Timothy C. Connor, REA


 Timothy C. Connor, REA
 Vice President

10/16/98
 Date


 John O'Connor

10/15/98
 Date

ASSESSMENT APPROACH

An on-site Asbestos-Containing Materials Survey was conducted at the Northern Bus Division. (Inspector training certificates are included in Appendix A.) The weather condition was sunny with temperatures of 82 (°F). The assessment consisted of sampling suspect asbestos-containing materials pursuant to the requirements of the Code of Federal Regulations, Title 29 (Occupational Safety and Health), Part 1910 (Occupational Safety and Health Standards, Section 1001 (Asbestos), Subsection j (Communications of Hazards to Employees). The assessment was to be sufficient to enable Consultant to issue a professional opinion concerning the Project Site status (based on recorded fact) as related to the following regulated activities:

Determine if the Project Site contains, in the areas surveyed, the following:

- o **Materials containing greater than one percent (1%) asbestos** as determined using the method defined in the Code of Federal Regulations, Title 40 (Protection of Environment); Part 763 (Asbestos); Appendix A to Subpart F (Interim Method of the Determination of Asbestos in Bulk Insulation Samples); Section 1 (Polarized Light Microscopy). This includes materials (Category I Non-Friable, Category II Non-Friable and Friable) defined in the Code of Federal Regulations, Title 40 (Protection of Environment); Part 61 (National Emission Standards of Hazardous Air Pollutants); Subpart M (National Emission Standard for Asbestos); Section 141 (Definitions).

In addition, the assessment was conducted to satisfy the requirements of:

- o The Code of Federal Regulations, Title 29 (Occupational Safety and Health), Part 1910 (Occupational Safety and Health Standards, Section 1001 (Asbestos), Subsection j (Communications of Hazards to Employees).

The laboratory report lists the samples taken from the Project Site and the laboratory analysis results using polarized light microscopy with dispersion staining for asbestos (Interim Method for the Determination of Asbestos in Bulk Insulation Sample - EPA 600/M4-82-020). The Consultant does not assume responsibility for interpretation of test results beyond what is printed in this analytical report.

PROJECT SITE RECONNAISSANCE

Regulated Asbestos-Containing Materials (RACM)

No previous asbestos survey reports were available for this facility.

During the course of our assessment, suspect asbestos-containing materials (ACM) were observed in the following forms:

- o Suspect Category I Non-Friable material
 - Vinyl floor tiles and associated mastic
 - Sheet vinyl flooring
 - Roofing material
- o Suspect Category II Non-Friable material
 - Drywall
 - Joint compound
 - Plaster (smooth and rough)
 - Vibration clothes on HVAC systems
- o Suspect Friable material
 - Spray-on fireproofing
 - Pipe fitting insulation on fiberglass insulated pipe
 - 2' x 2' ceiling tiles
 - 2' x 4' ceiling tiles

Suspect asbestos-containing materials, observed in the form of roofing materials, were not sampled at the time of the assessment because effective roof repairs were not practical and sampling can invalidate existing roof warranties. Sampling of the roof may be done in conjunction with scheduled equipment installation or roof repairs. These materials must be presumed asbestos containing material (PACM) until sampling is conducted to confirm or deny the presence of asbestos.

Sampling Activities

Representative samples of the accessible suspect asbestos-containing materials were obtained. The following table lists the samples taken, their location/description, and the findings of the laboratory analysis results. Laboratory data sheets are contained in Appendix B. Sample locations are presented on maps in Appendix C.

SAMPLE NUMBER	LOCATION	DESCRIPTION	ASBESTOS CONTAINING YES/NO	PHOTO NUMBER
JOC01A1	Sales Office	Pink 12" x 12" vinyl floor tiles, 1/8"	No	N/A
JOC01A2	Sales Office	Pink 12" x 12" vinyl floor tiles mastic	No	N/A
JOC01B1	Sales Office	Pink 12" x 12" vinyl floor tiles, 1/8"	No	N/A
JOC01B2	Sales Office	Pink 12" x 12" vinyl floor tiles, mastic	No	N/A
JOC01C1	Depot Clerk Office	Pink 12" x 12" vinyl floor tiles, 1/8"	No	N/A
JOC01C2	Depot Clerk Office	Pink 12" x 12" vinyl floor tiles, mastic	No	N/A
JOC02A	Regional Office 2 nd Floor Mechanical Room	Vibration cloth on HVAC	No	N/A
JOC02B	Regional Office 2 nd Floor Mechanical Room	Vibration cloth on HVAC	No	N/A
JOC02C	Regional Office 1 st Floor Mechanical Room	Vibration cloth on HVAC	No	N/A
JOC03A1	Supervisor Office	White 12" x 12" vinyl floor tiles, 1/8"	No	N/A
JOC03A2	Supervisor Office	White 12" x 12" vinyl floor tiles, mastic	No	N/A
JOC03B1	Regional Office 2 nd Floor South Foyer	White 12" x 12" vinyl floor tiles, 1/8"	No	N/A
JOC03B2	Regional Office 2 nd Floor South Foyer	White 12" x 12" vinyl floor tiles mastic	No	N/A
JOC03C1	Transportation Office Area	White 12" x 12" vinyl floor tiles, 1/8"	No	N/A
JOC03C2	Transportation Office Area	White 12" x 12" vinyl floor tiles, 1/8"	No	N/A
JOC04A	Transportation Storage #1	2' x 4' ceiling tile, white, gypsum, 3/4"	No	N/A
JOC04B	Transportation Entrance	2' x 4' ceiling tile, white, gypsum, 3/4"	No	N/A

SAMPLE NUMBER	LOCATION	DESCRIPTION	ASBESTOS CONTAINING YES/NO	PHOTO NUMBER
JOC04C	Transportation Office Area	2' x 4' ceiling tile, white, gypsum, ¾"	No	N/A
JOC05A1	Men's Locker Room, Lower Level	White with black streaks, 12" x 12" vinyl floor tiles, 1/8"	No	N/A
JOC05A2	Men's Locker Room, Lower Level	White with black streaks, 12" x 12" vinyl floor tiles, mastic	No	N/A
JOC05B1	Men's Locker Room, Lower Level	White with black streaks, 12" x 12" vinyl floor tiles, 1/8"	No	N/A
JOC05B2	Men's Locker Room, Lower Level	White with black streaks, 12" x 12" vinyl floor tiles, mastic	No	N/A
JOC05C1	Men's Locker Room, Lower Level	White with black streaks, 12" x 12" vinyl floor tiles, 1/8"	No	N/A
JOC05C2	Men's Locker Room, Lower Level	White with black streaks, 12" x 12" vinyl floor tiles, mastic	No	N/A
JOC06A1	Mechanical Hallway	Tan with white streaks, 12" x 12" vinyl floor tiles, 1/8"	No	N/A
JOC06A2	Mechanical Hallway	Tan with white streaks, 12" x 12" vinyl floor tiles, mastic	No	N/A
JOC06B1	Mechanical Hallway	Tan with white streaks, 12" x 12" vinyl floor tiles, 1/8"	No	N/A
JOC06B2	Mechanical Hallway	Tan with white streaks, 12: x 12" vinyl floor tiles, mastic	No	N/A
JOC06C1	Women's Locker Room, Lower Level	Tan with white streaks, 12" x 12" vinyl floor tiles, 1/8"	No	N/A
JOC06C2	Women's Locker Room, Lower Level	Tan with white streaks, 12" x 12" vinyl floor tiles, mastic	No	N/A
JOC07A1	Mechanic Lunch Room	Beige 12" x 12" vinyl floor tiles, 1/8"	No	N/A
JOC07A2	Mechanic Lunch Room	Beige 12" x 12" vinyl floor tiles, mastic	No	N/A
JOC07B1	Mechanic Lunch Room	Beige 12" x 12" vinyl floor tiles, 1/8"	No	N/A
JOC07B2	Mechanic Lunch Room	Beige 12" x 12" vinyl floor tiles, mastic	No	N/A
JOC07C1	Mechanic Lunch Room	Beige 12" x 12" vinyl floor tiles, 1/8"	No	N/A

SAMPLE NUMBER	LOCATION	DESCRIPTION	ASBESTOS CONTAINING YES/NO	PHOTO NUMBER
JOC07C2	Mechanic Lunch Room	Beige 12" x 12" vinyl floor tiles, mastic	No	N/A
JOC08A1	Mechanical Hallway	Light tan with white streaks, 12" x 12" vinyl floor tiles, 1/8"	No	N/A
JOC08A2	Mechanical Hallway	Light tan with white streaks, 12" x 12" vinyl floor tiles, mastic	No	N/A
JOC08B1	Mechanical Hallway	Light tan with white streaks, 12" x 12" vinyl floor tiles, 1/8"	No	N/A
JOC08B2	Mechanical Hallway	Light tan with white streaks, 12" x 12" vinyl floor tiles, mastic	No	N/A
JOC08C1	Mechanical Hallway	Light tan with white streaks, 12" x 12" vinyl floor tiles, 1/8"	No	N/A
JOC08C2	Mechanical Hallway	Light tan with white streaks, 12" x 12" vinyl floor tiles, mastic	No	N/A
JOC09A	Regional Office 2 nd Floor	Drywall – east wall	No	N/A
JOC09B	Transportation Office Area	Drywall – east wall	No	N/A
JOC09C	Transportation Office Area	Drywall – east wall	No	N/A
JOC10A	Regional Office 2 nd Floor	Joint compound – north wall	No	N/A
JOC10B	Transportation Office Area	Joint compound – east wall	No	N/A
JOC10C	Transportation Lounge	Joint compound – south wall	No	N/A
JOC11	Regional Office, 2 nd Floor South Foyer	Drywall/joint compound composite	No	N/A
JOC12A	C-Lot	Spray-On Fireproofing – Riser Beam	No	N/A
JOC12B	C-Lot	Spray-On Fireproofing – Riser Beam	No	N/A
JOC12C	C-Lot	Spray-On Fireproofing – Riser Beam	No	N/A
JOC12D	C-Lot	Spray-On Fireproofing – Riser Beam	No	N/A

SAMPLE NUMBER	LOCATION	DESCRIPTION	ASBESTOS CONTAINING YES/NO	PHOTO NUMBER
JOC12E	Upper Level Garage	Spray-On Fireproofing – Overhead Beam	No	N/A
JOC12F	Upper Level Garage	Spray-On Fireproofing – Overhead Beam	No	N/A
JOC12G	Upper Level Garage	Spray-On Fireproofing – Overhead Beam	No	N/A
JOC13A1	Transportation Storage #1	Orange 12" x 12" vinyl floor tiles, 1/8"	Yes	01
JOC13A2	Transportation Storage #1	Orange 12" x 12" vinyl floor tiles, mastic	No	N/A
JOC13B1	Electric Room	Orange 12" x 12" vinyl floor tiles, 1/8"	Yes	01
JOC13B2	Electric Room	Orange 12" x 12" vinyl floor tiles, mastic	No	N/A
JOC13C1	Telephone Room	Orange 12" x 12" vinyl floor tiles, 1/8"	Yes	01
JOC13C2	Telephone Room	Orange 12" x 12" vinyl floor tiles, mastic	No	N/A
JOC14A1	Exercise Room	Speckled beige, 12" x 12" vinyl floor tiles, 1/8"	No	N/A
JOC14A2	Exercise Room	Speckled beige, 12" x 12" vinyl floor tiles, mastic	No	N/A
JOC14B1	Exercise Room	Speckled beige, 12" x 12" vinyl floor tiles, 1/8"	No	N/A
JOC14B2	Exercise Room	Speckled beige, 12" x 12" vinyl floor tiles, mastic	No	N/A
JOC14C1	Exercise Room	Speckled beige, 12" x 12" vinyl floor tiles, 1/8"	No	N/A
JOC14C2	Exercise Room	Speckled beige, 12" x 12" vinyl floor tiles, mastic	No	N/A
JOC15A1	Men's Locker Room (Transportation)	Green with white specks, 12" x 12" vinyl floor tiles, 1/8"	Yes	02
JOC15A2	Men's Locker Room (Transportation)	Green with white specks, 12" x 12" vinyl floor tiles, mastic	Yes	02

SAMPLE NUMBER	LOCATION	DESCRIPTION	ASBESTOS CONTAINING YES/NO	PHOTO NUMBER
JOC15B1	Men's Locker Room (Transportation)	Green with white specks, 12" x 12" vinyl floor tiles, mastic	Yes	02
JOC15B2	Men's Locker Room (Transportation)	Green with white specks, 12" x 12" vinyl floor tiles, mastic	Yes	02
JOC15C1	Men's Locker Room (Transportation)	Green with white specks, 12" x 12" vinyl floor tiles, mastic	Yes	02
JOC15C2	Men's Locker Room (Transportation)	Green with white specks, 12" x 12" vinyl floor tiles, mastic	Yes	02
JOC16A	Regional Office 2 nd Floor Men's Room	Plaster ceiling	No	N/A
JOC16B	Regional Office 2 nd Floor Men's Room	Plaster ceiling	No	N/A
JOC16C	Men's Locker Room (Transportation)	Plaster wall	No	N/A
JOC16D	Transportation Lounge	Plaster wall	No	N/A
JOC16E	Transportation Lounge	Plaster wall	No	N/A
JOC17A1	Transportation Office Area	Dark marble 12" x 12" vinyl floor tiles, 1/8"	No	N/A
JOC17A2	Transportation Office Area	Dark marble 12" x 12" vinyl floor tiles, marble	No	N/A
JOC17B1	Transportation Office Area	Dark marble 12" x 12" vinyl floor tiles, 1/8"	No	N/A
JOC17B2	Transportation Office Area	Dark marble 12" x 12" vinyl floor tiles, marble	No	N/A
JOC17C1	Transportation Office Area	Dark marble 12" x 12" vinyl floor tiles, 1/8"	No	N/A
JOC17C2	Transportation Office Area	Dark marble 12" x 12" vinyl floor tiles, marble	No	N/A
JOC18A	Regional Office, Stairwell #3	Rough Plaster – Wall	No	N/A

SAMPLE NUMBER	LOCATION	DESCRIPTION	ASBESTOS CONTAINING YES/NO	PHOTO NUMBER
JOC18B	Regional Office, Stairwell #3	Rough Plaster – Wall	No	N/A
JOB18C	Regional Office, Stairwell #3	Rough Plaster – Wall	No	N/A
JOC19A	Regional Office 2 nd Floor South Foyer	2' x 2' ceiling tile, white, gypsum, ¾"	No	N/A
JOC19B	Regional Office Conference Room	2' x 2' ceiling tile, white, gypsum, ¾"	No	N/A
JOC19C	Regional Office 1 st Floor North Foyer	2' x 2' ceiling tile, white, gypsum, ¾"	No	N/A
JOC20A	Dispatch Shack	Yellow sheet vinyl flooring, 1/16"	No	N/A
JOC20B	Dispatch Shack	Yellow sheet vinyl flooring, 1/16"	No	N/A
JOC20C	Dispatch Shack	Yellow sheet vinyl flooring, 1/16"	No	N/A

Discussion

As indicated by the laboratory analysis results and assumed materials, the use of asbestos-containing materials was identified in the following form (Locations of ACM are presented on maps contained in Appendix D):

MATERIAL	LOCATION	QUANTITY	CONDITION	METHOD
Orange 12" x 12" vinyl floor tiles	Transportation – telephone room	48 SF	Good	Laboratory analysis
Orange 12" x 12" vinyl floor tiles	Transportation – electrical room	48 SF	Good	Laboratory analysis
Orange 12" x 12" vinyl floor tiles	Transportation – storage room #1	100 SF	Good	Laboratory analysis
Orange 12" x 12" vinyl floor tiles	Transportation – vending room	480 SF	Good	Laboratory analysis
Orange 12" x 12" vinyl floor tiles	Transportation – lounge	2,220 SF	Good	Laboratory analysis
Orange 12" x 12" vinyl floor tiles	Transportation – office	190 SF	Good	Laboratory analysis
Green with white specks 12" x 12" vinyl floor tiles and mastic	Transportation – office	280 SF	Good	Laboratory analysis

MATERIAL	LOCATION	QUANTITY	CONDITION	METHOD
Green with white specks 12" x 12" vinyl floor tiles and mastic	Transportation – men's locker room	1,100 SF	Good	Laboratory analysis
Roofing material	Roof	200,000 SF	Good	Assumed
Firedoors	Throughout	50 EA	Good	Assumed

The orange 12" x 12" vinyl floor tiles (Category I Non-Friable Material) were utilized in the following transportation areas: the Telephone Room, Electrical Room, Storage Room #1, Vending Room, Lounge and in the Transportation Office. The green with white specks vinyl floor tile and associated mastic (Category I Non-Friable Material) were used in the Transportation Office and in the Transportation Men's Locker Room. All materials were observed to be in good condition.

Asbestos-containing materials (ACM) such as these may be maintained in place by the use of an Operation and Maintenance (O&M) Program as defined in the EPA Managing Asbestos In Place: A Building Owner's Guide to Operations and Maintenance Programs for Asbestos Containing Materials. The O&M program, if carried out with prudence and diligence, should be sufficient to maintain the property in accordance with current applicable regulatory standards and sound business practices. The O&M program should include the elements identified in the Conclusions and Recommendations section of this report. Generally, asbestos-containing materials maintained with an O&M program can remain in-place for the life cycle of the individual system, provided the integrity of the material remains intact and undisturbed. Removal can be coordinated with renovations and/or modifications which may effect the ACMs.

CONCLUSIONS AND RECOMMENDATIONS

Develop and implement an Operations and Maintenance (O&M) Program that ensures the integrity of the non-friable materials. This program needs only to ensure that the non-friable materials are not sanded, ground or mechanically abraded to produce fibers. Non-friable materials have historically been shown not to be a significant environmental threat.

Any asbestos-containing materials that are scheduled to be disturbed due to planned renovations/remodeling must be abated in accordance with federal, state and local guidelines.

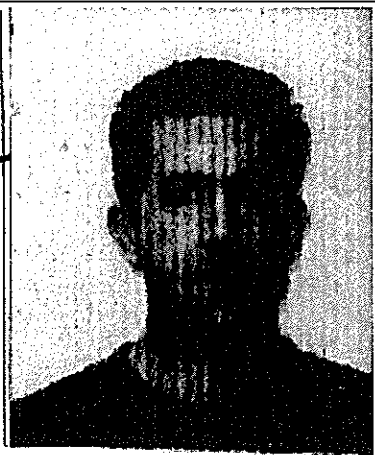
Building owners shall notify the following persons of the presence, location, and quantity of regulated asbestos-containing materials (**ACM**) or presumed asbestos-containing materials (**PACM**), at work sites in their buildings and facilities. Notification either shall be in writing, or shall consist of a personal communication between the owner and the person to whom notification must be given or their authorized representatives.

- o WMATA employees who will work in or adjacent to areas containing such material.
- o Prospective contractors applying or bidding for work whose employees reasonably can be expected to work in or adjacent to areas containing such material.

APPENDIX A

INSPECTOR TRAINING CERTIFICATION

John M. O'Connor
Name
Signature



HAS ATTENDED AND PASSED THE EXAM IN
AN ASBESTOS TRAINING COURSE ENTITLED:

Asb. Bldg. Insp. Ref.
Course Name

FOR ACCREDITATION UNDER TSCA TITLE II.

(STATE SEAL IS BLUE)

08/08/97 08/08/98 08/08/97
Course Date(s) Expiration Date Exam Date

NO. 032085 ETI STATE OF MARYLAND

Tr: Environmental Training
Ac: International, Inc.
Ci: 1702 Industrial Highway, Suite 7
Pf: Cinnaminson, NJ 08077
(609)829-3111 31-00-01
Roy Bowman Zip

Name of Training Director Signature of Training Director

For additional information, call MDE (410) 631-3801.



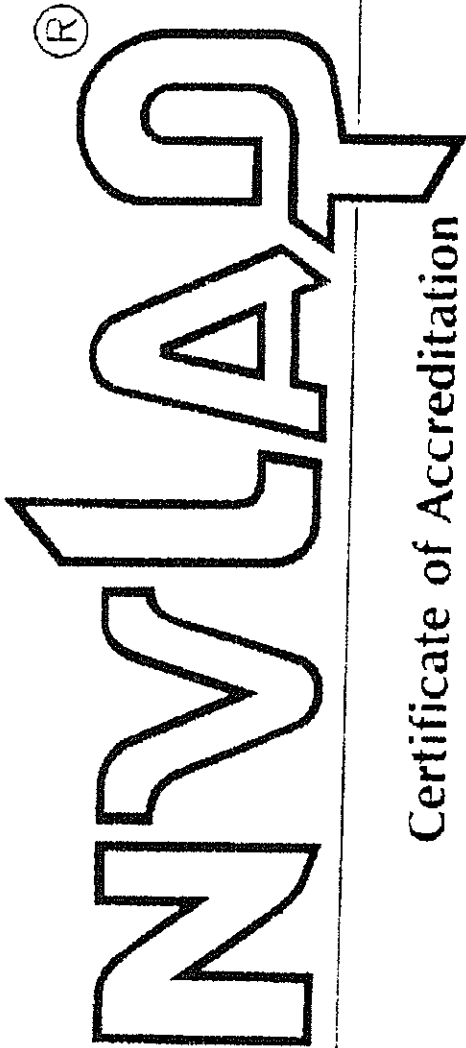
INSPECTOR TRAINING CERTIFICATION

CONNOR Environmental Services and Engineering Assessments
A Division of MIRCON, Inc.
Bare Hills Business Center
1421 Clarkview Road
Baltimore, MD 21209-2188

APPENDIX B

LABORATORY CERTIFICATION AND ANALYTICAL RESULTS

United States Department of Commerce
National Institute of Standards and Technology



ISO/IEC GUIDE 25:1990
ISO 9002:1987

Certificate of Accreditation



METROPOLITAN ENVIRONMENTAL TESTING SERVICES DBA METS LABORATORIES
WALDORF, MD

is recognized under the National Voluntary Laboratory Accreditation Program for satisfactory compliance with criteria established in Title 15, Part 285 Code of Federal Regulations. These criteria encompass the requirements of ISO/IEC Guide 25 and the relevant requirements of ISO 9002 (ANSI/ASQC Q92-1987) as suppliers of calibration or test results. Accreditation is awarded for specific services, listed on the Scope of Accreditation for

BULK ASBESTOS FIBER ANALYSIS

June 30, 1999

from to through

For the National Institute of Standards and Technology

NVLAP Lab Code 200165-0

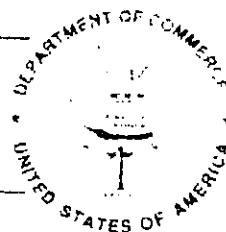
National Institute
of Standards and Technology



National Voluntary
Laboratory Accreditation Program

ISO/IEC GUIDE 25:1990
ISO 9002:1987

Scope of Accreditation



Page: 1 of 1

BULK ASBESTOS FIBER ANALYSIS

NVLAP LAB CODE 200165-0

METROPOLITAN ENVIRONMENTAL TESTING SERVICES DBA METS LABORATORIES

179 Smallwood Village Center

Waldorf, MD 20602

Ms. Carrie A. Wright

Phone: 301-870-1995 Fax: 301-870-1701

NVLAP Code

Designation

181A01

U.S. EPA's "Interim Method for the Determination of Asbestos in Bulk Insulation Samples" as found in 40 CFR, Part 763, Subpart F, App. A, or the current U.S. EPA method for the analysis of asbestos in building material.

June 30, 1999

Page 1 of 1

A handwritten signature in black ink, appearing to read "John L. Galt".

John L. Galt, Director, National Institute of Standards and Technology



THE AMERICAN INDUSTRIAL HYGIENE ASSOCIATION
is proud to acknowledge that

Metropolitan Environmental Testing Services, Inc.
Waldorf, MD
Laboratory ID# 21506

has fulfilled the requirements for the Environmental Lead Laboratory Accreditation Program and has earned distinguished recognition as an

AIHA ELLAP ACCREDITED LABORATORY

06/05/1997 - 06/05/2000

In the following matrices: Paint Soil Dust

This program is recognized by the EPA as meeting the requirements of the National Lead Laboratory Accreditation Program established under Title X of the Residential Lead-Based Paint Hazard Reduction Act of 1991 and includes paint, soil and dust wipe analysis. Air analysis is not included as part of the NLLAP.

Jack M. Hurd
Jack M. Hurd, Ph.D., CIH, CSP
President, American Industrial Hygiene Association

Don J. Hart
Don J. Hart, Ph.D., CIH
Chair, Analytical Accreditation Board

Don J. Hart
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Chair, Analytical Accreditation Board


METS
LABORATORIES

179 Smallwood Village Center, Waldorf, Maryland, 20602

 Metro: 301.870.1995
 Toll Free: 800.604.1995
 Fax#: 301.870.1701

Bulk Asbestos Analysis Report

NY ELAP #11603, NVLAP #200165-0

Method EPA 600/R-93/116

Report Number 980605031

Account Number: 11-7804

Client Name: Connor Environmental Services

Address: 1421 Clarkview Rd Suite 100

Baltimore

MD 21209

Date Collected:

N/A

Date Received:

60598

Date Analyzed:

60998

Date Reported:

61098

Project: Northern Bus Division WMATA 809404

METS Sample No.	Client Sample ID	Asbestos Detected (Y/N)	Non Asbestos %	Asbestos / %	Color
980605031-001A	JOC01A Sales Office- pink 12x12 VFT- fl tile	No	Cellulose trace, NANF 99+	NAD	tan
980605031-001B	JOC01A Sales Office-Pink 12x12 VFT- mastic	No	Cellulose 5, NANF 95	NAD	black
980605031-002A	JOC01B Sales Office-Pink 12x12 VFT- fl tile	No	Cellulose trace, NANF 99+	NAD	tan
980605031-002B	JOC01B Sales Office-Pink 12x12 VFT- mastic	No	Cellulose 2, NANF 98	NAD	black
980605031-003A	JOC01C Depot Clerk Office Pink 12x12 VFT- fl tile	No	Cellulose trace, NANF 99+	NAD	tan
980605031-003B	JOC01C Depot Clerk Office Pink 12x12 VFT- mastic	No	Cellulose 2, NANF 98	NAD	black
980605031-004	JOC02A Regional Office 2nd floor Mech Rm- vibration cloth on HVAC	No	Cellulose trace, Fiberglass 90, NANF 9+	NAD	black
980605031-005	JOC02B Regional Office 2nd floor Mech Rm- vibration cloth on HVAC	No	Cellulose trace, Fiberglass 85, NANF 14+	NAD	black
980605031-006	JOC02C Regional Office 1st floor Mech Rm- vibration cloth on HVAC	No	Cellulose trace, Fiberglass 70, NANF 29+	NAD	tan/blk

Note NAD = No Asbestos Detected, NANF = Non-Asbestos Non-Fibrous, * = Presence Noted, Trace = Trace Amounts Noted, < 1%

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 6/11/98 SAZ
 Reviewed By:
 Seyed Tadayon
 QA/QC Officer


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Project: Northern Bus Division WMATA 809404

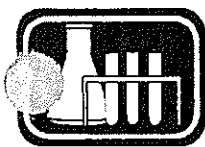
METS Sample No.	Client Sample ID	Asbestos Detected (Y/N)	Non Asbestos %	Asbestos / %	Color
980605031-007A	JOC03A Supervisor Office- white 12x12 VFT- fl tile	No	Cellulose trace, NANF 99+	NAD	gray
980605031-007B	JOC03A Supervisor Office- white 12x12 VFT- mastic	No	Cellulose 5, NANF 95	NAD	black
980605031-008A	JOC03B Regional Office 2nd fl south foyer- white 12x12 VFT- fl tile	No	Cellulose trace, NANF 99+	NAD	gray
980605031-008B	JOC03B Regional Office 2nd fl south foyer- white 12x12 VFT- mastic	No	Cellulose 2, NANF 98	NAD	tan
980605031-009A	JOC03C Transportation Office Area- white 12x12 VFT- fl tile	No	Cellulose trace, NANF 99+	NAD	white
980605031-009B	JOC03C Transportation Office Area- white 12x12 VFT- mastic	No	Cellulose 2, Synthetic 3, NANF 95	NAD	tan
980605031-010	JOC04A Transportation Storage #1	No	Cellulose 50, Mineral wool 30, NANF 20	NAD	tan/wht
980605031-011	JOC04B Transportation Entrance	No	Cellulose 50, Mineral wool 20, NANF 30	NAD	tan/wht
980605031-012	JOC04C Transportation Office Area	No	Cellulose 50, Mineral wool 20, NANF 30	NAD	tan/wht

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Bulk Asbestos Analysis Report

NY ELAP #11603, NVLAP #200165-0

Method EPA 600/R-93/116

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Account Number: 11-7804

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Baltimore

MD 21209

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Project: Northern Bus Division WMATA 809404

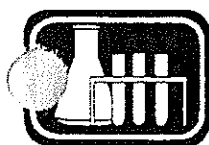
METS Sample No.	Client Sample ID	Asbestos Detected (Y/N)	Non Asbestos %	Asbestos / %	Color
980605031-013A	JOC05A Men's locker rm lower level white w/black streaks 12x12 VFT- fl tile	No	Cellulose trace, NANF 99+	NAD	gray
980605031-013B	JOC05A Men's locker rm lower level white w/black streaks 12x12 VFT-mastic	No	Cellulose 2, NANF 98	NAD	black
980605031-014A	JOC05B Men's locker rm lower level white w/black streaks 12x12 VFT- fl tile	No	Cellulose trace, NANF 99+	NAD	gray
980605031-014B	JOC05B Men's locker rm lower level white w/black streaks 12x12 VFT-mastic	No	Cellulose trace, NANF 99+	NAD	black
980605031-015A	JOC05C Men's locker rm lower level white w/black streaks 12x12 VFT- fl tile	No	Cellulose trace, NANF 99+	NAD	gray
980605031-015B	JOC05C Men's locker rm lower level white w/black streaks 12x12 VFT-mastic	No	Cellulose 5, NANF 95	NAD	black
980605031-016A	JOC06A Mechanical Hallway tan w/white streaks 12x12 VFT- fl tile	No	Cellulose trace, NANF 99+	NAD	brown
980605031-016B	JOC06A Mechanical Hallway tan w/white streaks 12x12 VFT- mastic	No	Cellulose 2, NANF 98	NAD	black
980605031-017A	JOC06B Mechanical Hallway tan w/white streaks 12x12 VFT- fl tile	No	Cellulose trace, NANF 99+	NAD	brown

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Bulk Asbestos Analysis Report

NY ELAP #11603, NVLAP #200165-0

Method EPA 600/R-93/116

Report Number 980605031

Account Number: 11-7804

Client Name: Connor Environmental Services

Address: 1421 Clarkview Rd Suite 100

Baltimore MD 21209

Date Collected: N/A

Date Received: 60598

Date Analyzed: 60998

Date Reported: 61098

Project: Northern Bus Division WMATA 809404

METS Sample No.	Client Sample ID	Asbestos Detected (Y/N)	Non Asbestos %	Asbestos / %	Color
980605031-017B	JOC06B Mechanical Hallway tan w/white streaks 12x12 VFT- mastic	No	Cellulose 3, NANF 97	NAD	dk brown
980605031-018A	JOC06C Women's locker rm lower level tan w/white streaks 12x12 VFT- fl tile	No	Cellulose trace, NANF 99+	NAD	brown
980605031-018B	JOC06C Women's locker rm lower level tan w/white streaks 12x12 VFT- mastic	No	Cellulose trace, NANF 99+	NAD	tan
980605031-019A	JOC07A Mechanic lunch rm beige 12x12 VFT- fl tile	No	Cellulose trace, NANF 99+	NAD	tan
980605031-019B	JOC07A Mechanic lunch rm beige 12x12 VFT- mastic	No	Cellulose 5, NANF 95	NAD	black
980605031-020A	JOC07B Mechanic lunch rm beige 12x12 VFT- fl tile	No	Cellulose trace, NANF 99+	NAD	tan
980605031-020B	JOC07B Mechanic lunch rm beige 12x12 VFT- mastic	No	Cellulose 3, NANF 97	NAD	black
980605031-021A	JOC07C Mechanic lunch rm beige 12x12 VFT- fl tile	No	Cellulose trace, NANF 99+	NAD	tan
980605031-021B	JOC07C Mechanic lunch rm beige 12x12 VFT- mastic	No	Cellulose 5, NANF 95	NAD	black

Note: NAD = No Asbestos Detected NANF = Non-Asbestos Non-Fibrous. * = Presence Noted, Trace = Trace Amounts Noted, < 1%

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NY ELAP #11603, NVLAP #200165-0

Method EPA 600/R-93/116

Report Number 980605031

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 Client Name: Connor Environmental Services
 Address: 1421 Clarkview Rd Suite 100
 Baltimore MD 21209

Date Collected: N/A
 Date Received: 60598
 Date Analyzed: 60998
 Date Reported: 61098

Project: Northern Bus Division WMATA 809404

METS Sample No.	Client Sample ID	Asbestos Detected	Non Asbestos %	Asbestos / %	Color
980605031-022A	JOC08A Mechanical hallway light tan w/white streaks 12x12 VFT- fl tile	No	Cellulose trace, NANF 99+	NAD	tan
980605031-022B	JOC08A Mechanical hallway light tan w/white streaks 12x12 VFT- mastic	No	Cellulose 5, NANF 95	NAD	black
980605031-023A	JOC08B Mechanical hallway light tan w/white streaks 12x12 VFT- fl tile	No	Cellulose trace, NANF 99+	NAD	tan
980605031-023B	JOC08B Mechanical hallway light tan w/white streaks 12x12 VFT- mastic	No	Cellulose 3, NANF 97	NAD	black
980605031-024A	JOC08C Mechanical hallway light tan w/white streaks 12x12 VFT- fl tile	No	Cellulose trace, NANF 99+	NAD	tan
980605031-024B	JOC08C Mechanical hallway light tan w/white streaks 12x12 VFT- mastic	No	Cellulose 3, NANF 97	NAD	brown
980605031-025	JOC09A Regional office 2nd floor drywall	No	Cellulose 20, NANF 80	NAD	gray/tan
980605031-026	JOC09B Transportation office area drywall	No	Cellulose 30, NANF 70	NAD	gray/tan
980605031-027	JOC09C Transportation office area drywall	No	Cellulose 25, NANF 75	NAD	gray/tan

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Method EPA 600/R-93/116

Report Number 980605031

Account Number: 11-7804

Client Name: Connor Environmental Services

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 Baltimore MD 21209

 Date Collected: N/A
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Project: Northern Bus Division WMATA 809404

METS Sample No.	Client Sample ID	Asbestos Detected	Non Asbestos %	Asbestos / %	Color
980605031-028	JOC10A Regional office 2nd floor joint compound	No	Cellulose trace, NANF 99+	NAD	tan
980605031-029	JOC10B Transportation office area joint compound	No	Cellulose trace, NANF 99+	NAD	tan
980605031-030	JOC10C Transportation lounge joint compound	No	Cellulose trace, NANF 99+	NAD	tan
980605031-031	JOC11 Regional office drywall/joint compound composite	No	Cellulose 20, NANF 80	NAD	tan/gray
980605031-032	JOC12A C-Lot spray-on fireproofing	No	Cellulose trace, NANF 99+	NAD	gray
980605031-033	JOC12B C-Lot spray-on fireproofing	No	Cellulose trace, NANF 99+	NAD	gray
980605031-034	JOC12C C-Lot spray-on fireproofing	No	Cellulose trace, NANF 99+	NAD	gray
980605031-035	JOC12D C-Lot spray-on fireproofing	No	Cellulose trace, NANF 99+	NAD	gray
980605031-036	JOC12E Upper Level garage spray-on fireproofing	No	Cellulose 20, NANF 80	NAD	tan

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Bulk Asbestos Analysis Report

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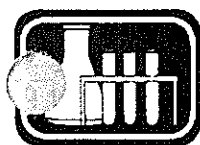
Project: Northern Bus Division WMATA 809404

METS Sample No.	Client Sample ID	Asbestos Detected (Y/N)	Non Asbestos %	Asbestos / %	Color
980605031-037	JOC12F Upper Level garage spray-on fireproofing	No	Cellulose 25, Fiberglass 10, NANF 65	NAD	tan
980605031-038	JOC12G Upper Level garage spray-on fireproofing	No	Cellulose 25, Fiberglass trace, NANF 74+	NAD	tan
980605031-039A	JOC13A Transportation storage #1 orange 12x12 VFT- fl tile	Yes	Cellulose trace, NANF 97+	Chrysotile 2	tan
980605031-039B	JOC13A Transportation storage #1 orange 12x12 VFT- mastic	No	Cellulose trace, NANF 99+	NAD	black
980605031-040A	JOC13B Electric Room Orange 12x12 VFT- fl tile	Yes	Cellulose trace, NANF 97+	Chrysotile 2	brown
980605031-040B	JOC13B Electric Room Orange 12x12 VFT- mastic	No	Cellulose trace, NANF 99+	NAD	black
980605031-041A	JOC13C Telephone Room Orange 12x12 VFT- fl tile	Yes	Cellulose trace, NANF 97+	Chrysotile 2	tan
980605031-041B	JOC13C Telephone Room Orange 12x12 VFT- mastic	No	Cellulose trace, NANF 99+	NAD	brown
980605031-042A	JOC14A Exercise Room speckled beige 12x12 VFT- fl tile	No	Cellulose trace, NANF 99+	NAD	brown

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Project:

Northern Bus Division WMATA 809404

METS Sample No.	Client Sample ID	Asbestos Detected (Y/N)	Non Asbestos %	Asbestos / %	Color
980605031-042B	JOC14A Exercise Room speckled beige 12x12 VFT- mastic	No	Cellulose trace, Synthetic trace, NANF 99+	NAD	blk/tan
980605031-043A	JOC14B Exercise Room speckled beige 12x12 VFT- fl tile	No	Cellulose trace, NANF 99+	NAD	tan
980605031-043B	JOC14B Exercise Room speckled beige 12x12 VFT- mastic	No	Cellulose trace, Synthetic trace, NANF 99+	NAD	tan
980605031-044A	JOC14C Exercise Room speckled beige 12x12 VFT- fl tile	No	Cellulose trace, NANF 99+	NAD	tan
980605031-044B	JOC14C Exercise Room speckled beige 12x12 VFT- mastic	No	Cellulose trace, Synthetic trace, NANF 99+	NAD	tan
980605031-045A	JOC15A Men's locker rm(transportation) grn w/wht specks 12x12 VFT- fl tile	Yes	Cellulose trace, NANF 96+	Chrysotile 3	gray
980605031-045B	JOC15A Men's locker rm(transportation) grn w/wht specks 12x12 VFT- mastic	Yes	Cellulose trace, NANF 94+	Chrysotile 5	black
980605031-046A	JOC15B Men's locker rm(transportation) grn w/wht specks 12x12 VFT- fl tile	Yes	Cellulose trace NANF 96+	Chrysotile 3	brown
980605031-046B	JOC15B Men's locker rm(transportation) grn w/wht specks 12x12 VFT- mastic	Yes	Cellulose trace, NANF 94+	Chrysotile 5	black

Note: NAD = No Asbestos Detected, NANF = Non-Asbestos Non-Fibrous, * = Presence Noted, Trace = Trace Amounts Noted, < 1%

These results apply only to the samples analyzed. Collection procedures, protocols, and sample locations are based on sampler and/or submitting company. Therefore, it is the policy of METS Laboratory to disclaim any knowledge of and liability for the accuracy of the information provided. This report will not be used by the Client to claim product endorsement by NVLAP or any other government agency and shall not be reproduced except in full without the written approval of METS Environmental Testing Services, Inc.

 6/11/98 SAT
 Reviewed By:
 Seyed Tadayon
 QA/QC Officer


METS
LABORATORIES

179 Smallwood Village Center, Waldorf, Maryland, 20602

 Metro: 301.870.1995
 Toll Free: 800.604.1995
 Fax#: 301.870.1701

Bulk Asbestos Analysis Report

NY ELAP #11603, NVLAP #200165-0

Method EPA 600/R-93/116

Report Number 980605031

Account Number: 11-7804

Client Name: Connor Environmental Services

Address: 1421 Clarkview Rd Suite 100

Baltimore MD 21209

Date Collected: N/A

Date Received: 60598

Date Analyzed: 60998

Date Reported: 61098

Project: Northern Bus Division WMATA 809404

METS Sample No.	Client Sample ID	Asbestos Detected (Y/N)	Non Asbestos %	Asbestos / %	Color
980605031-047A	JOC15C Men's locker rm(transportation) grn w/wht specks 12x12 VFT- fl tile	Yes	Cellulose trace, NANF 97+	Chrysotile 2	brown
980605031-047B	JOC15C Men's locker rm(transportation) grn w/wht specks 12x12 VFT- mastic	Yes	Cellulose trace, NANF 94+	Chrysotile 5	black
980605031-048	JOC16A Regional office 2nd fl men's rm- plaster ceiling	No	Cellulose trace, NANF 99+	NAD	tan
980605031-049	JOC16B Regional office 2nd fl women's rm- plaster ceiling	No	Cellulose trace, NANF 99+	NAD	tan/white
980605031-050	JOC16C Men's locker rm (transportation)- plaster wall	No	Cellulose trace, NANF 99+	NAD	wht/gray
980605031-051	JOC16D Transportation lounge-plaster wall	No	Cellulose trace, Fiberglass 2, NANF 97+	NAD	wht/gray
980605031-052	JOC16E Transportation lounge-plaster wall	No	Cellulose trace, Fiberglass trace, NANF 99+	NAD	tan
980605031-053A	JOC17A Transportation office area-dark marble 12x12 VFT- fl tile	No	Cellulose trace, NANF 99+	NAD	brown
980605031-053B	JOC17A Transportation office area-dark marble 12x12 VFT- mastic	No	Cellulose 5, Synthetic trace, NANF 94+	NAD	black

Note NAD = No Asbestos Detected, NANF = Non-Asbestos Non-Fibrous, * = Presence Noted, Trace = Trace Amounts Noted, < 1%

These results apply only to the samples analyzed. Collection procedures, protocols, and sample locations are based on sampler and/or submitting company. Therefore, it is the policy of METS Laboratory to disclaim any knowledge of and liability for the accuracy of the information provided. This Report will not be used by the Client to claim product endorsement by NVLAP or any other government agency and shall not be reproduced except in full without the written approval of METS Environmental Testing Services, Inc.

 6/11/98 SAT
 Reviewed By:
 Sayed Tadayon
 QA/QC Officer


METS
LABORATORIES

179 Smallwood Village Center, Waldorf, Maryland, 20602

 Metro: 301.870.1995
 Toll Free: 800.604.1995
 Fax#: 301.870.1701

Bulk Asbestos Analysis Report

NY ELAP #11603, NVLAP #200165-0

Method EPA 600/R-93/116

Report Number 980605031

Account Number: 11-7804
 Client Name: Connor Environmental Services
 Address: 1421 Clarkview Rd Suite 100
 Baltimore MD 21209

Date Collected: N/A
 Date Received: 60598
 Date Analyzed: 60998
 Date Reported: 61098

Project: Northern Bus Division WMATA 809404

METS Sample No.	Client Sample ID	Asbestos Detected (Y/N)	Non Asbestos %	Asbestos / %	Color
980605031-054A	JOC17B Transportation office area-dark marble 12x12 VFT- fl tile	No	Cellulose trace, NANF 99+	NAD	multi
980605031-054B	JOC17B Transportation office area-dark marble 12x12 VFT- mastic	No	Cellulose 10, Synthetic 5, NANF 85	NAD	black
980605031-055A	JOC17C Transportation office area-dark marble 12x12 VFT- fl tile	No	Cellulose trace, NANF 99+	NAD	multi
980605031-055B	JOC17C Transportation office area-dark marble 12x12 VFT- mastic	No	Cellulose 10, Synthetic 5, NANF 85	NAD	black
980605031-056	JOC18A Regional office stairwell #3-rough plaster	No	Cellulose trace, NANF 99+	NAD	gray/tan
980605031-057	JOC18B Regional office stairwell #3-rough plaster	No	Cellulose trace, NANF 99+	NAD	tan
980605031-058	JOC18C Regional office stairwell #3- rough plaster	No	Cellulose trace, NANF 99+	NAD	tan
980605031-059	JOC19A Regional office 2nd floor south foyer 2x2 ceiling tile	No	Cellulose 50, Mineral Wool 20, NANF 30	NAD	tan/wht
980605031-060	JOC19B Regional office conference room 2x2 ceiling tile	No	Cellulose 50, Mineral Wool 30, NANF 20	NAD	tan/wht

Note: NAD = No Asbestos Detected, NANF = Non-Asbestos Non-Fibrous, * = Presence Noted, Trace = Trace Amounts Noted, < 1%

These results apply only to the samples analyzed. Collection procedures, protocols, and sample locations are based on sampler and/or submitting company. Therefore, it is the policy of METS Laboratory to disclaim any knowledge of and liability for the accuracy of the information provided. This Report will not be used by the Client to claim product endorsement by NVLAP or any other government agency and shall not be reproduced except in full without the written approval of METS Environmental Testing Services, Inc.

**METS**
LABORATORIES

179 Smallwood Village Center, Waldorf, Maryland, 20602

Metro: 301.870.1995
Toll Free: 800.604.1995
Fax#: 301.870.1701

Bulk Asbestos Analysis Report

NY ELAP #11603, NVLAP #200165-0

Method EPA 600/R-93/116

Report Number 980605031

Account Number: 11-7804

Client Name: Connor Environmental Services

Address: 1421 Clarkview Rd Suite 100

Baltimore MD 21209

Date Collected: N/A

Date Received: 60598

Date Analyzed: 60998

Date Reported: 61098

Project: Northern Bus Division WMATA 809404

METS Sample No.	Client Sample ID	Asbestos Detected (Y/N)	Non Asbestos %	Asbestos / %	Color
980605031-061	JOC19C Regional office 1st floor north foyer 2x2 ceiling tile	No	Cellulose 50, Mineral Wool 40, NANF 10	NAD	tan/wht
980605031-062	JOC20A Dispatch shack yellow sheet vinyl flooring	No	Cellulose 50, NANF 50	NAD	multi
980605031-063	JOC20B Dispatch shack yellow sheet vinyl flooring	No	Cellulose 50, NANF 50	NAD	multi
980605031-064	JOC20C Dispatch shack yellow sheet vinyl flooring	No	Cellulose 70, NANF 30	NAD	multi

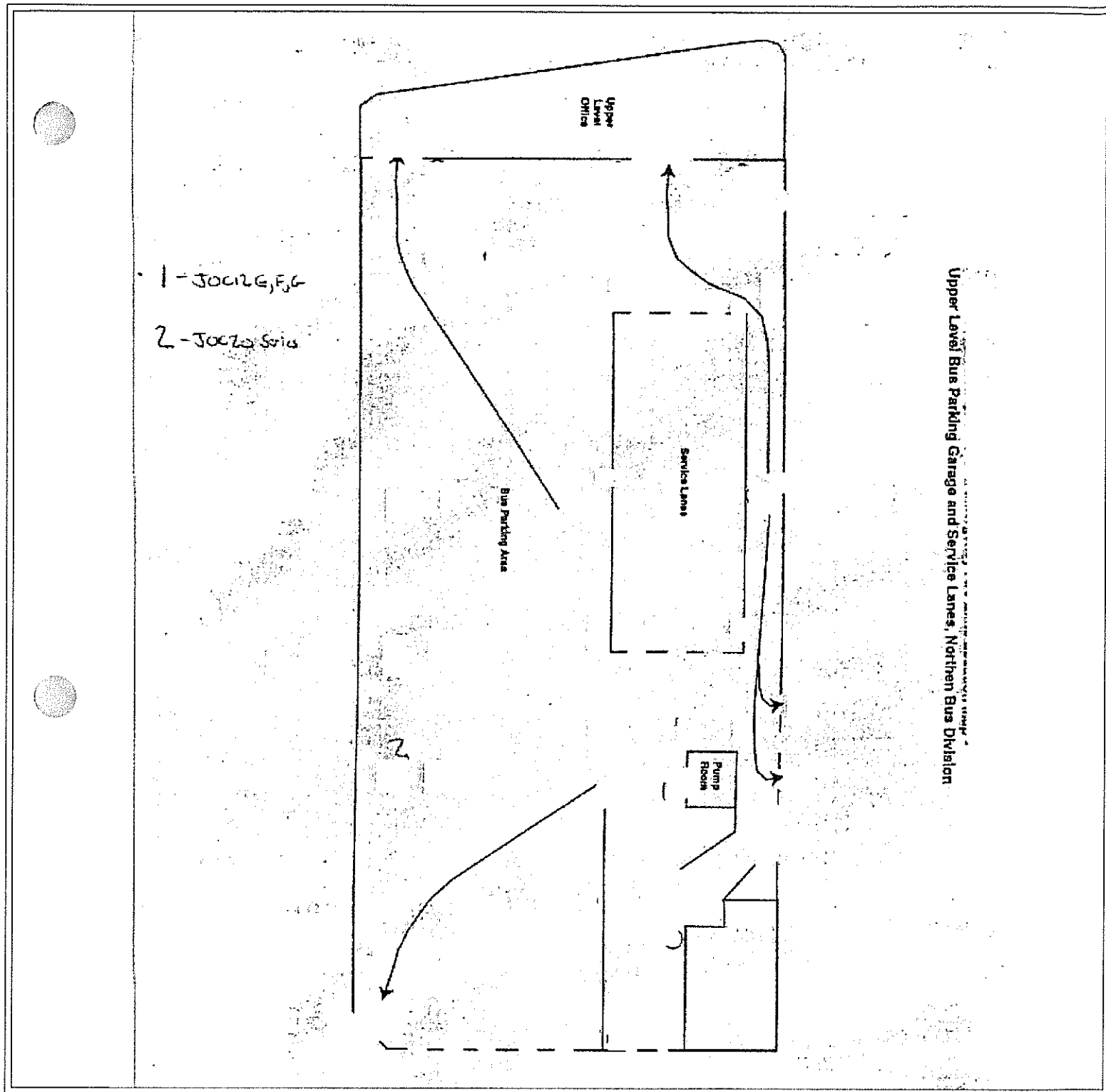
Note: NAD = No Asbestos Detected, NANF = Non-Asbestos Non-Fibrous, * = Presence Noted, Trace = Trace Amounts Noted, < 1%

These results apply only to the samples analyzed. Collection procedures, protocols, and sample locations are based on sampler and/or submitting company. Therefore, it is the policy of METS Laboratory to disclaim any knowledge of and liability for the accuracy of the information provided. This report will not be used by the Client to claim product endorsement by NVLAP or any other government agency and shall not be reproduced except in full without the written approval of METS Environmental Testing Services, Inc.

6/11/98 SAT
Reviewed By:
Sayed Tadayon
QA/QC Officer

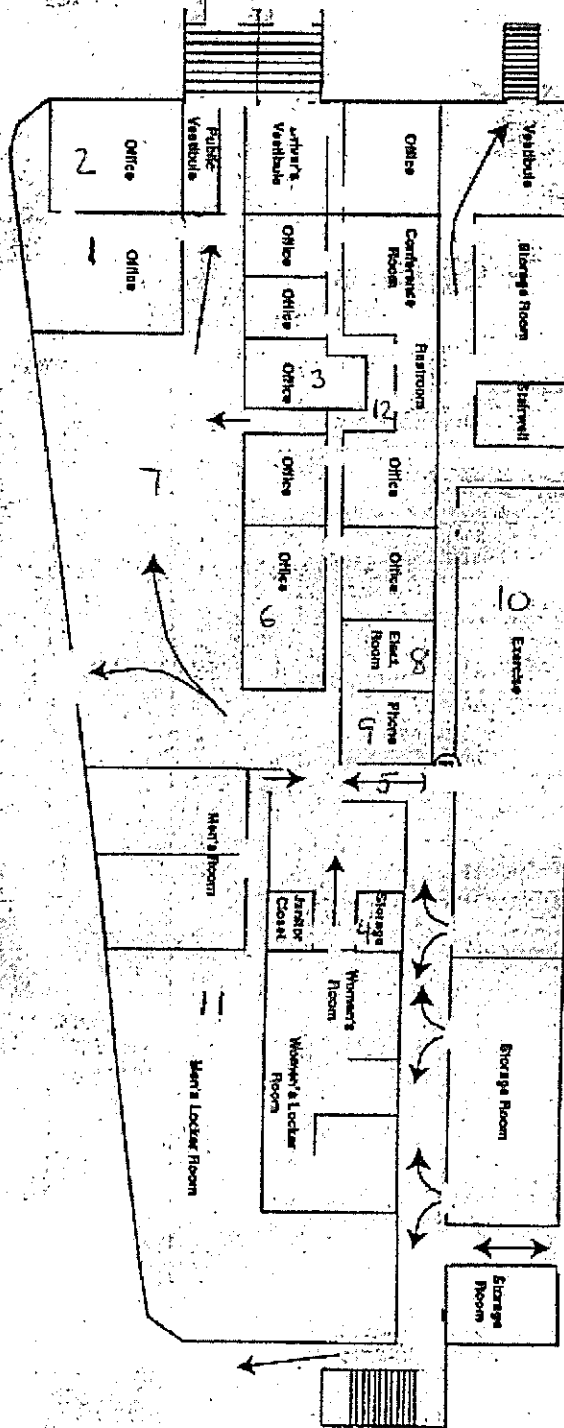
APPENDIX C

SAMPLE LOCATION MAPS

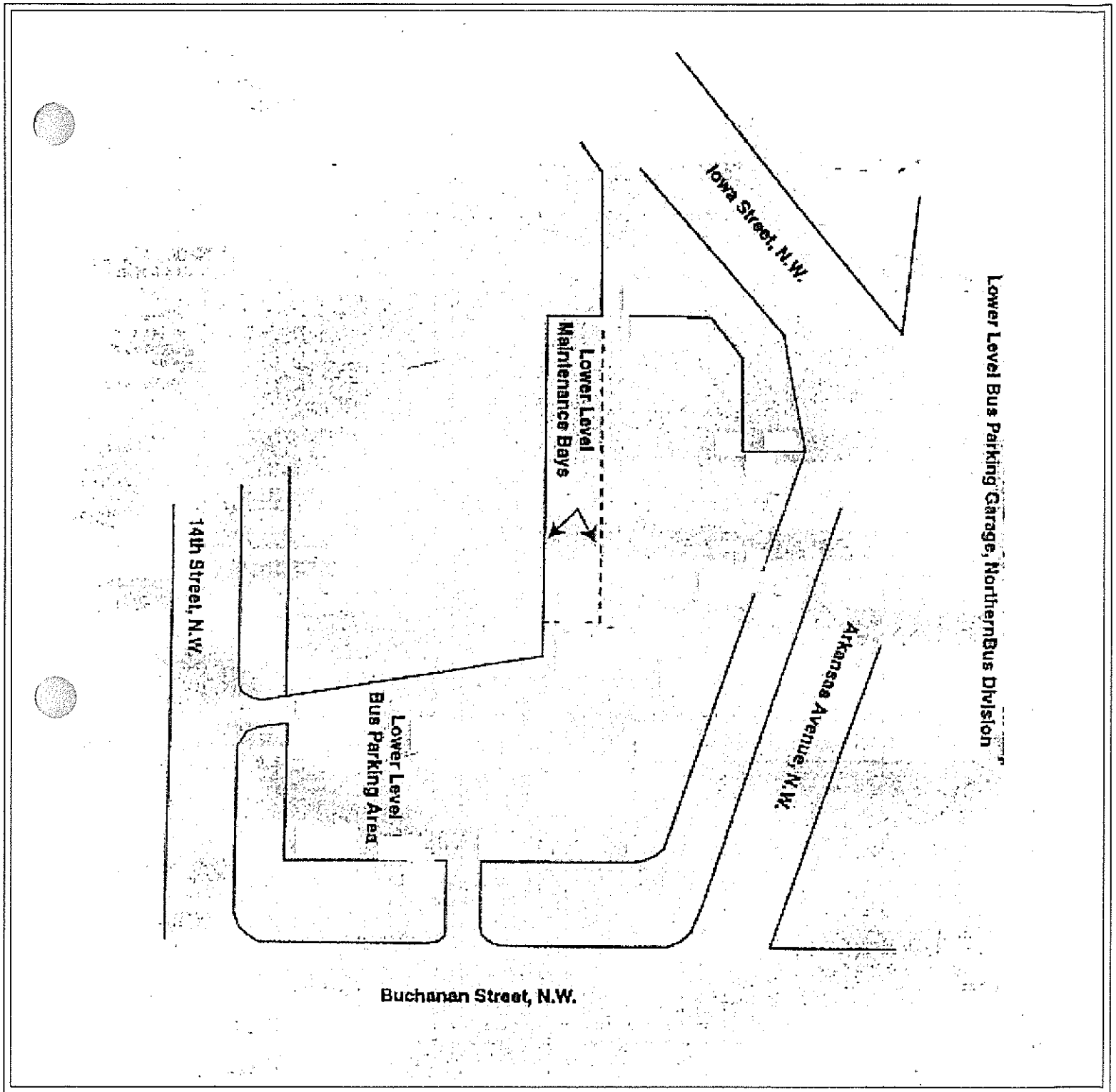


SAMPLE LOCATION MAP

- 1 - JOC01C1,2
- 2 - JOC01A1,2,B1,2
- 3 - JOC03C1,2
JOC04C
JOC04B
JOC04B
- 4 - JOC04A
JOC03A1,2
- 5 - JOC04B
- 6 - JOC04C
- 7 - JOC10C
JOC16D,E
- 8 - JOC13B1,2
- 9 - JOC13C1,2
- 10 - JOC14 Series
- 11 - JOC15 Series
JOC16C
- 12 - JOC17 Series



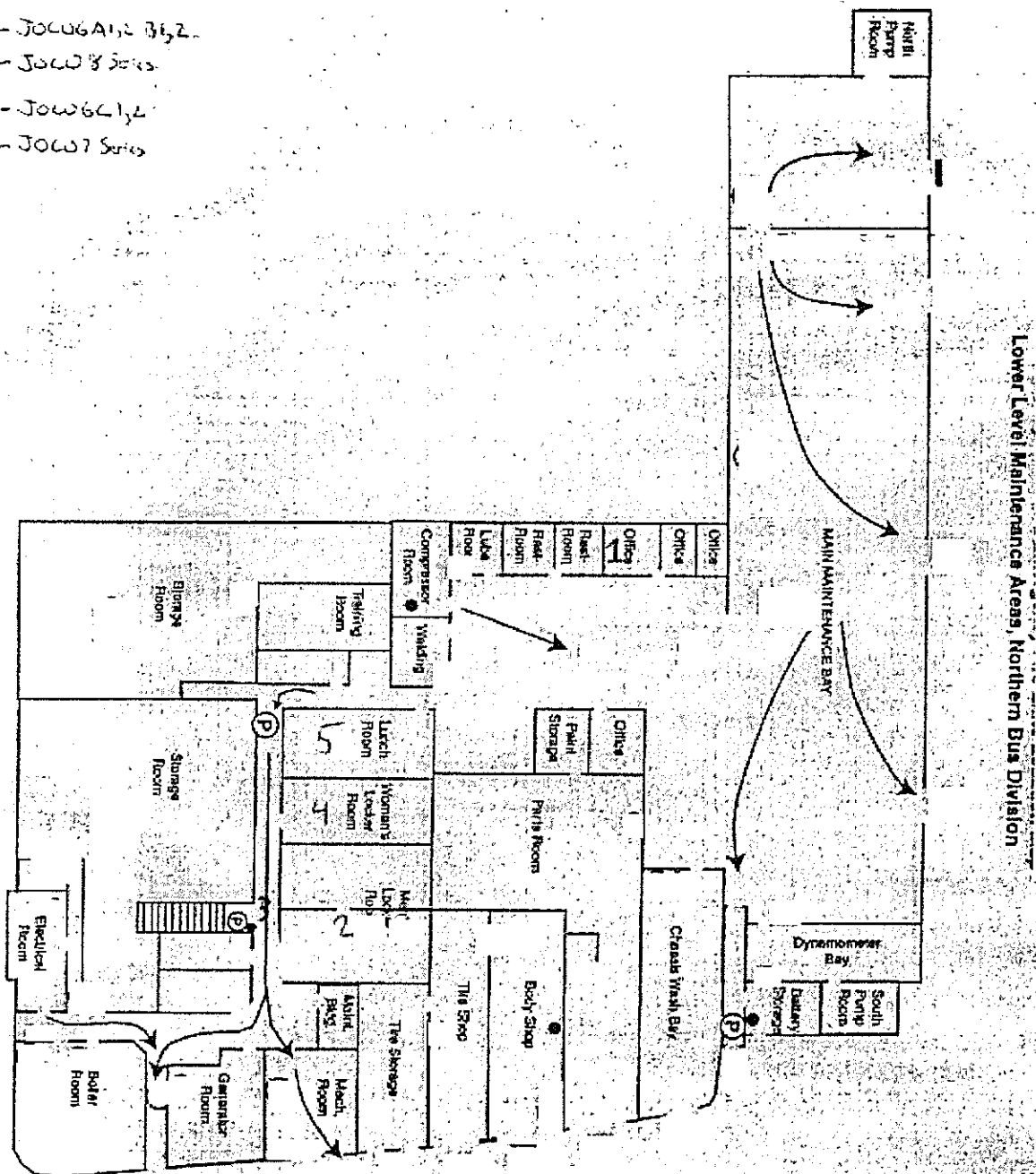
SAMPLE LOCATION MAP



SAMPLE LOCATION MAP

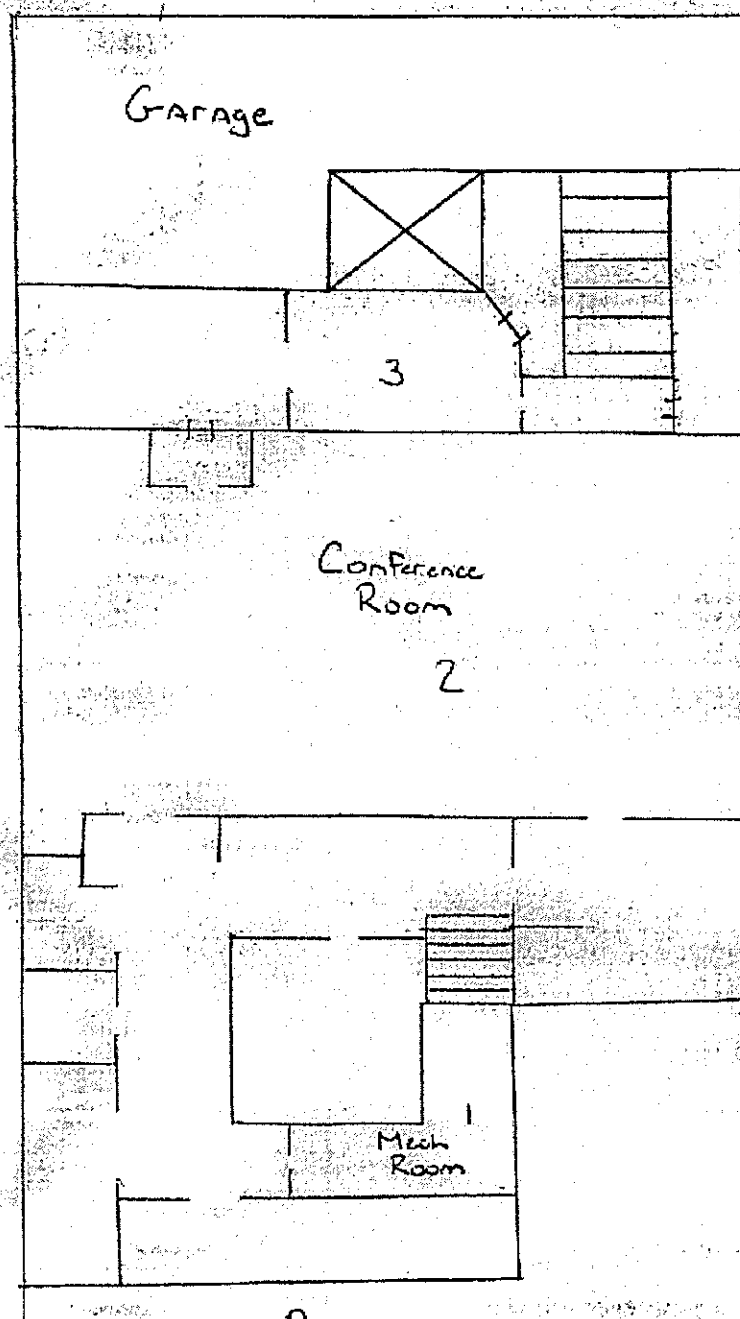
CONNOR Environmental Services and Engineering Assessments
A Division of MIRCON, Inc.
Bare Hills Business Center
1421 Clarkview Road
Baltimore, MD 21209-2188

- 1-JOW3A1,2
- 2-JOW3 Series
- 3-JOW6A1,2 B1,2
- 4-JOW3 Series
- 4-JOW6A1,2
- 5-JOW7 Series



SAMPLE LOCATION MAP

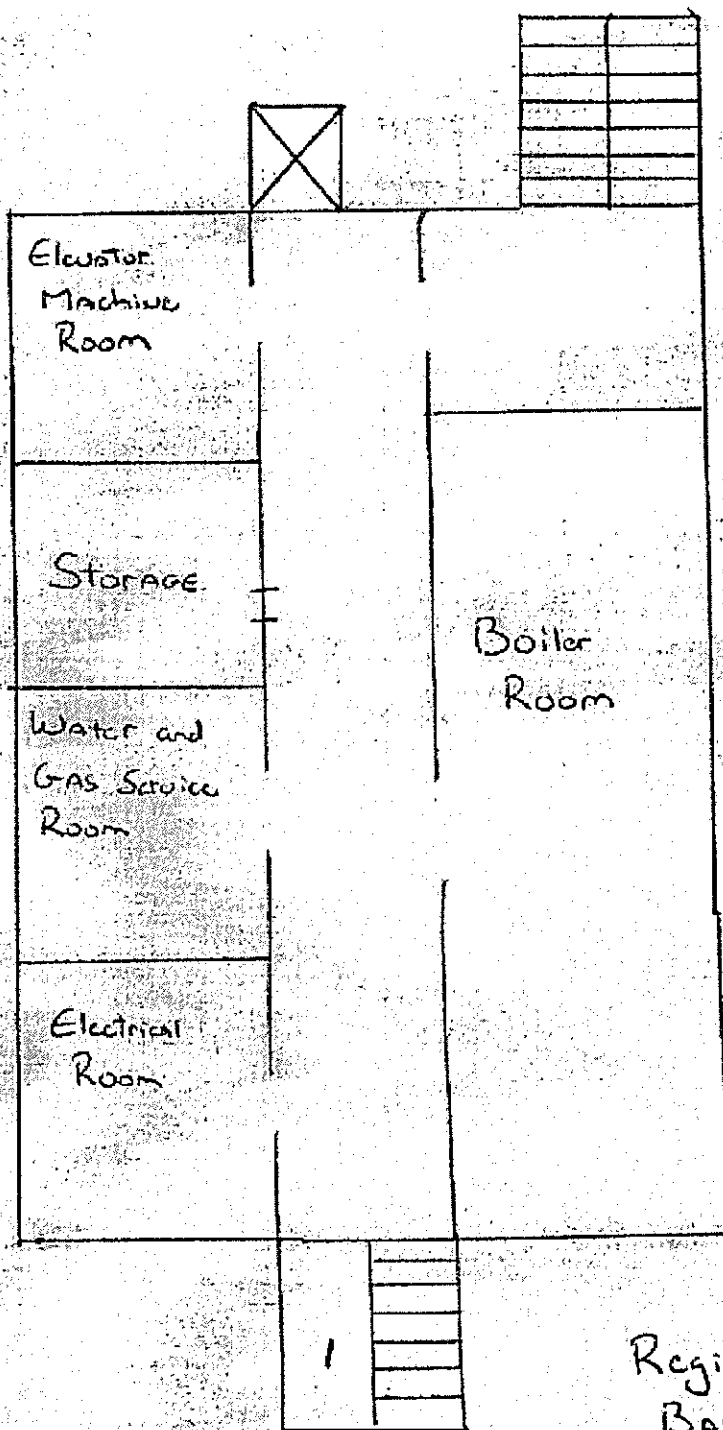
1-JUL02C
2-JUL93
3-JUL96



Regional Office
1st Floor

SAMPLE LOCATION MAP

1-JOC18 Series

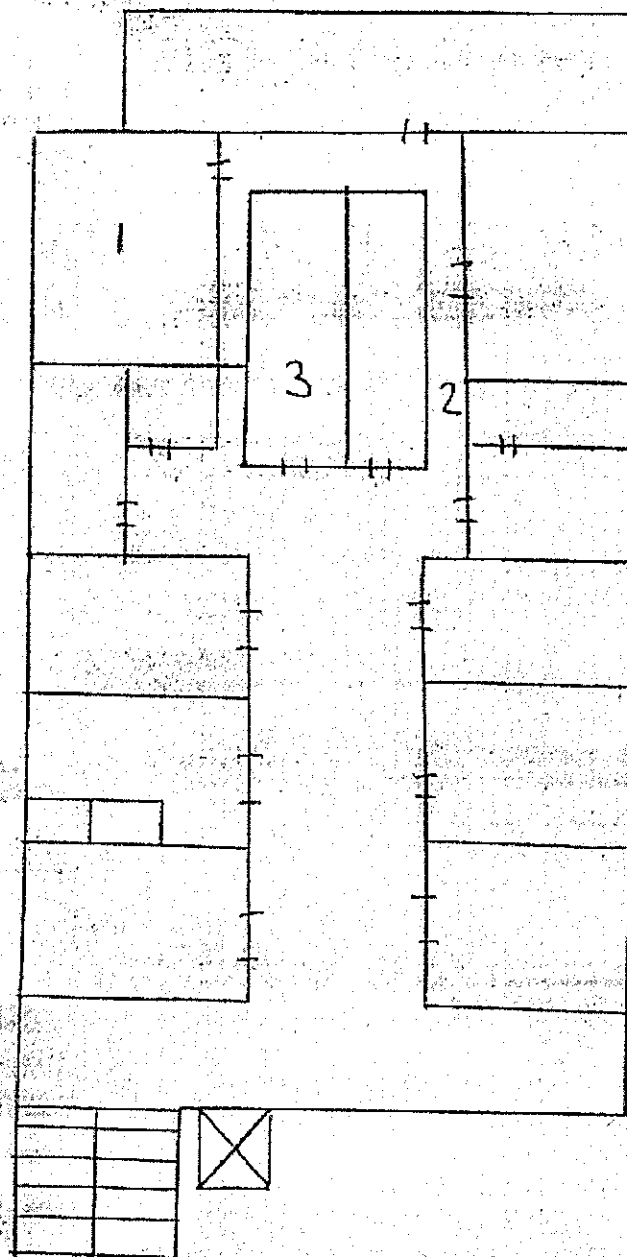


SAMPLE LOCATION MAP

1-JOC02A
JOC02B

2-JOC03B,2
JOC09A
JOC10A
JOC11
JOC19A

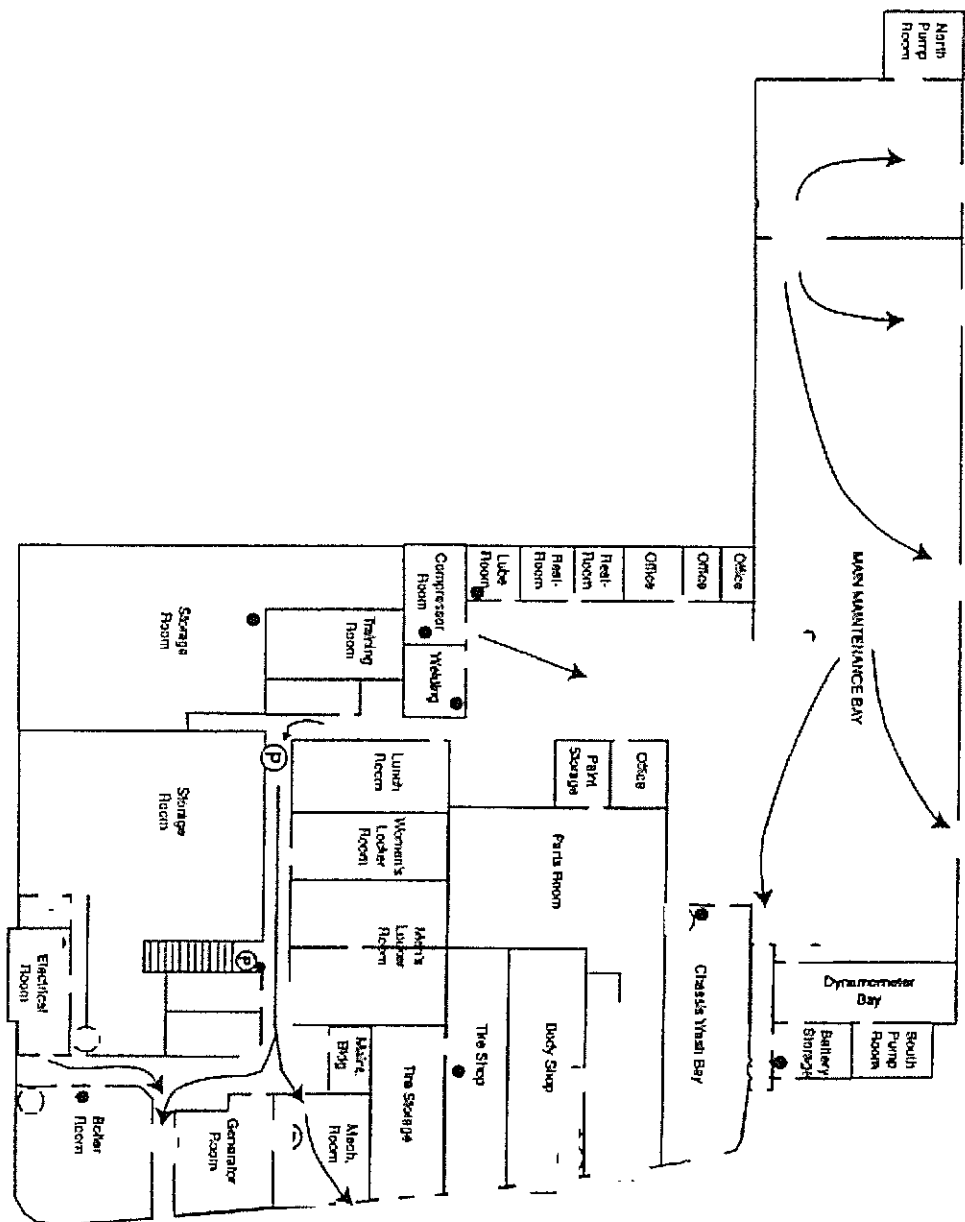
3-JOC16A,B



Regional Office
2nd Floor

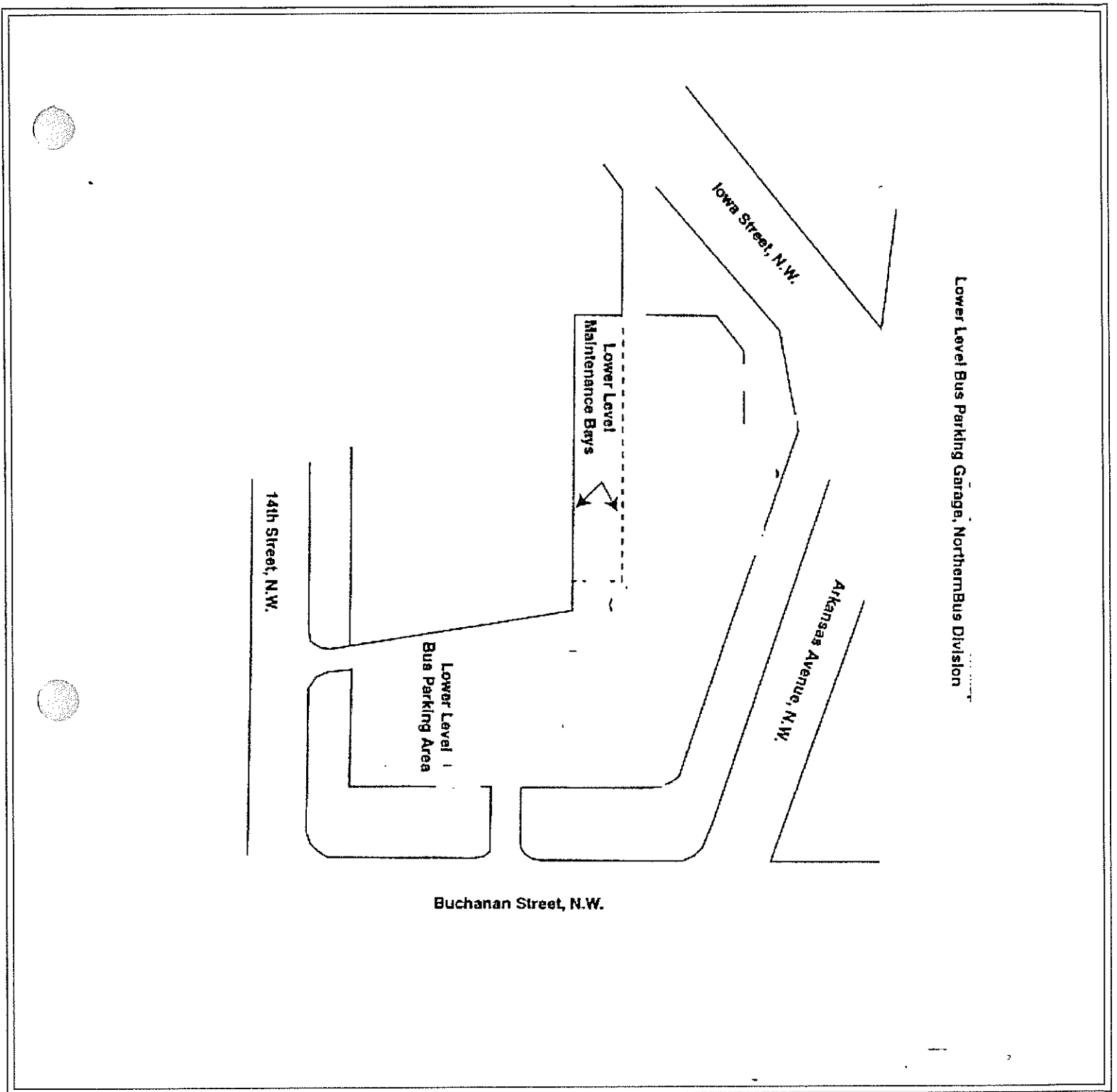
SAMPLE LOCATION MAP

APPENDIX D
ACM LOCATION MAPS



Lower Level Maintenance Areas, Northern Bus Division

ACM LOCATION MAP

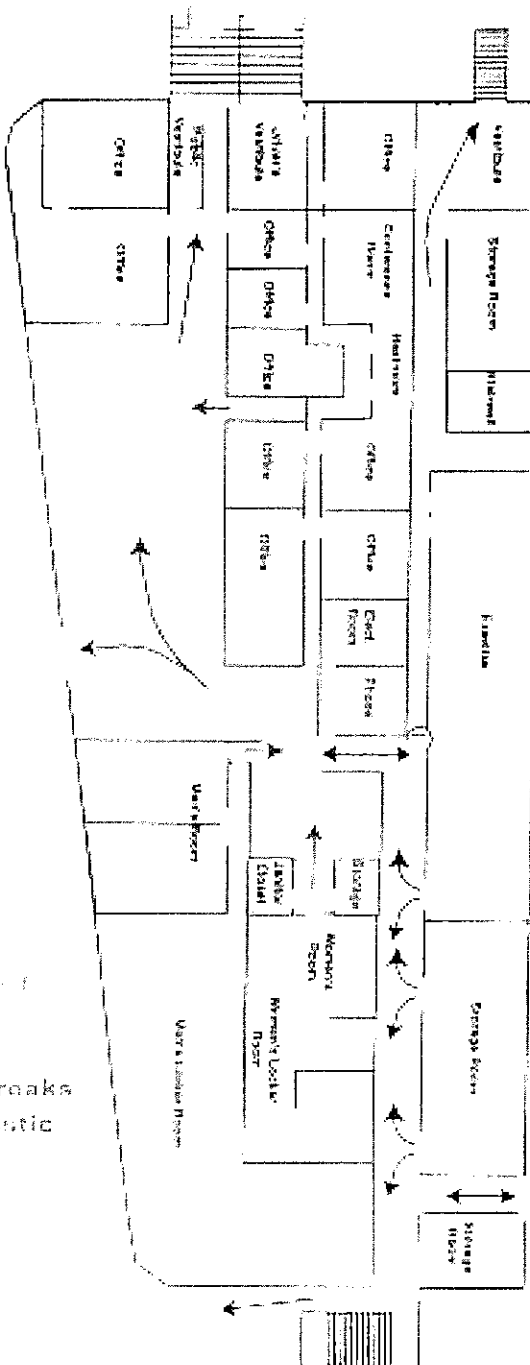


ACM LOCATION MAP

CONNOR Environmental Services and Engineering Assessments
A Division of MIRCON, Inc.
Bare Hills Business Center
1421 Clarkview Road
Baltimore, MD 21209-2188

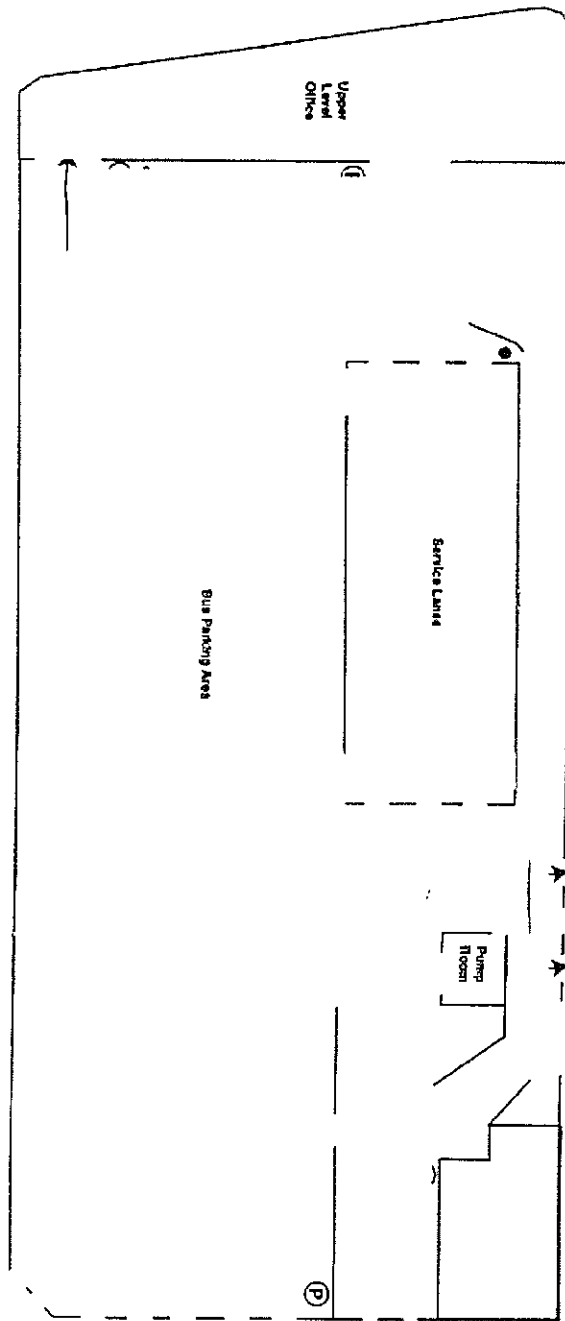
Lower Level Maintenance Areas, Northern Bus Division

Green w/ White Strakes
12"x12" VET & Mastic



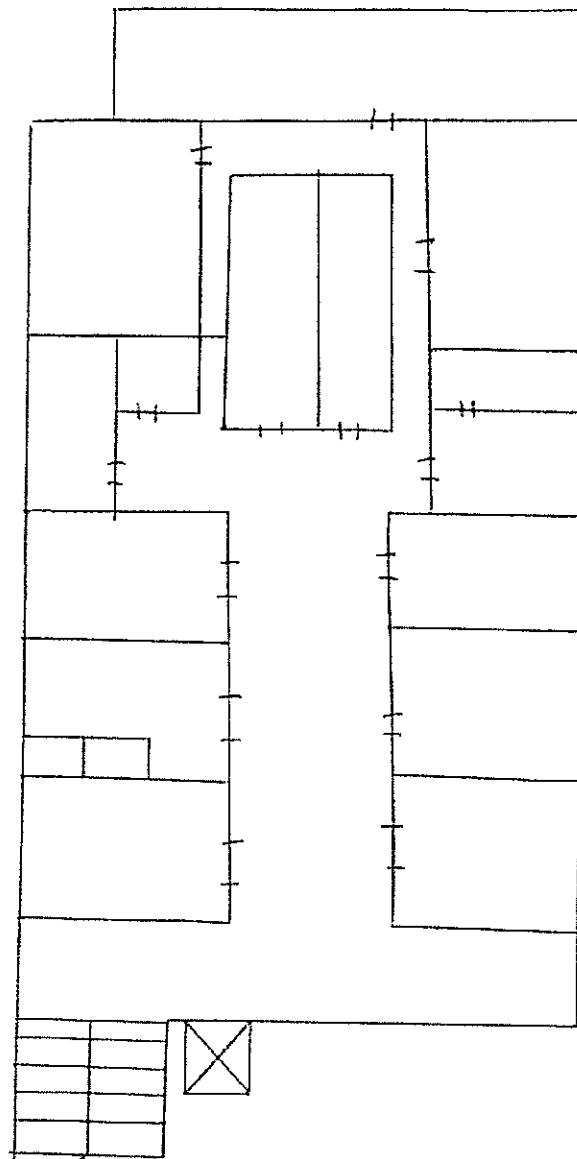
ACM LOCATION MAP

Upper Level Bus Parking Garage and Service Lanes, Northern Bus Division



ACM LOCATION MAP

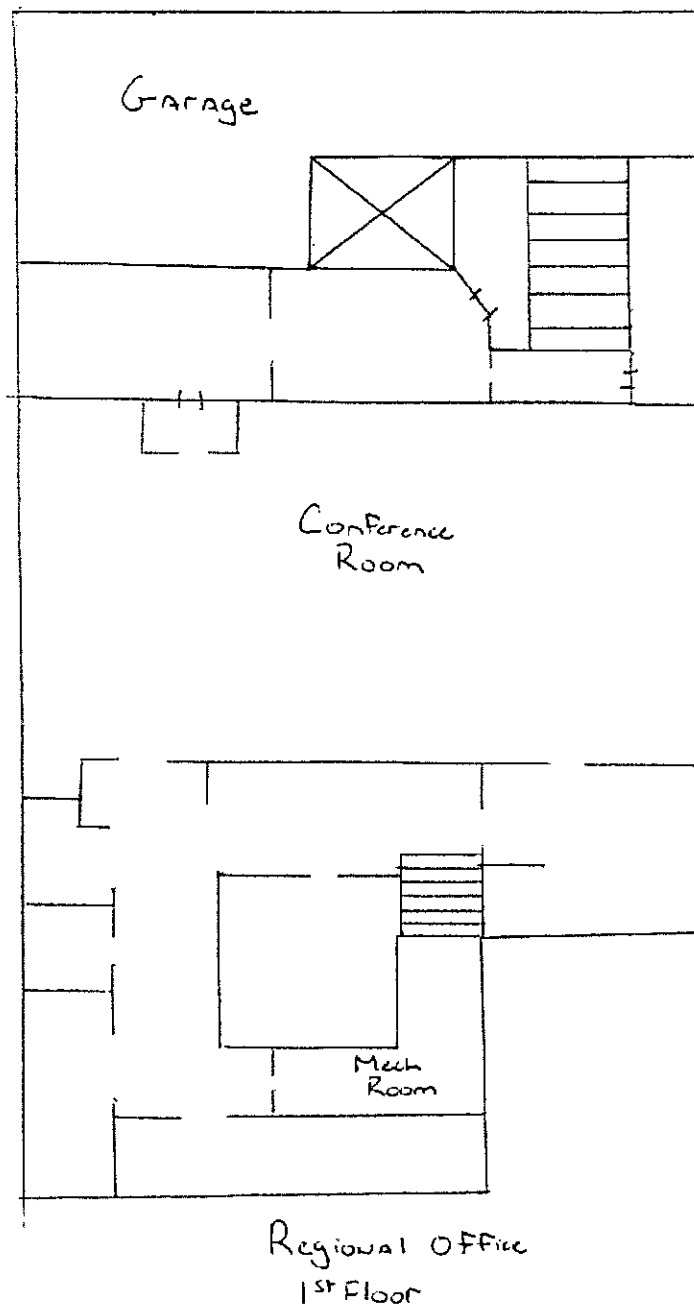
CONNOR Environmental Services and Engineering Assessments
A Division of MIRCON, Inc.
Bare Hills Business Center
1421 Clarkview Road
Baltimore, MD 21209-2188



Regional Office
2nd Floor

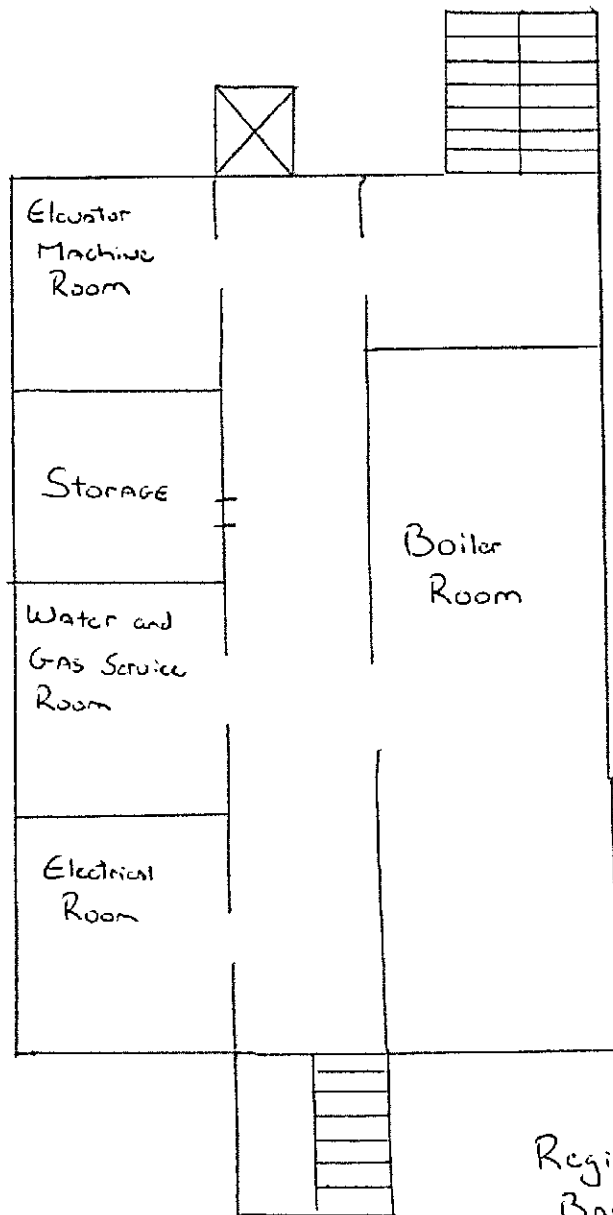
ACM LOCATION MAP

CONNOR Environmental Services and Engineering Assessments
A Division of MIRCON, Inc.
Bare Hills Business Center
1421 Clarkview Road
Baltimore, MD 21209-2188



ACM LOCATION MAP

CONNOR Environmental Services and Engineering Assessments
A Division of MIRCON, Inc.
Bare Hills Business Center
1421 Clarkview Road
Baltimore, MD 21209-2188

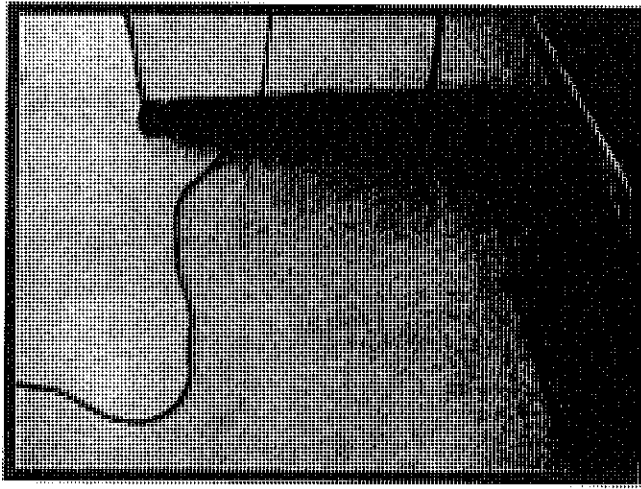


Regional Office
Basement

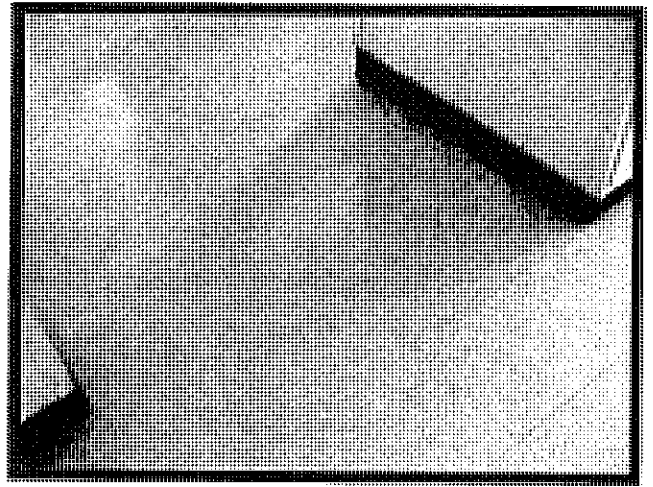
ACM LOCATION MAP

APPENDIX E

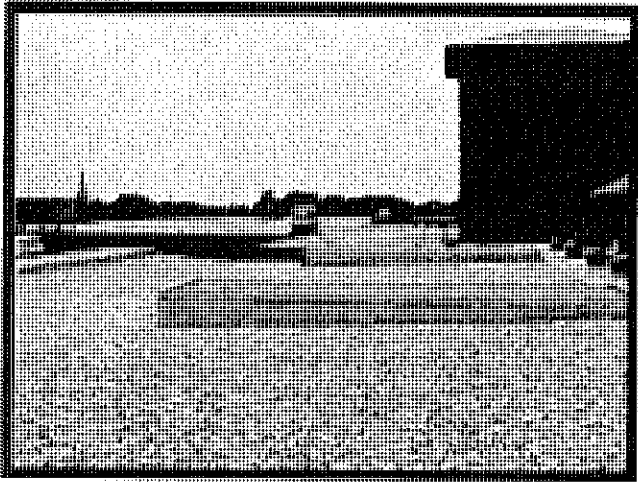
PHOTOGRAPHIC DOCUMENTATION



01 - ORANGE 12"X12" VFT



02 - GREEN W/ WHITE SPECKS 12"X12"
VFT & MASTIC



03 - ROOF

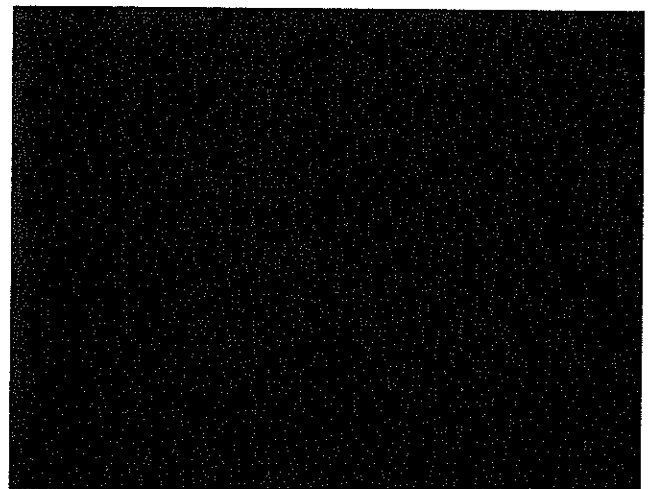
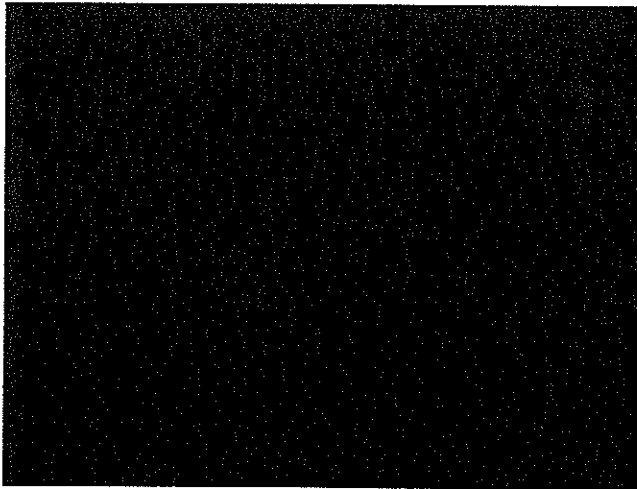
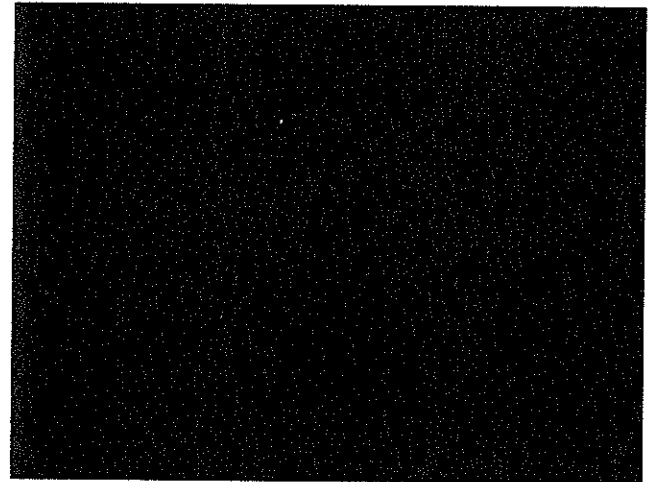


Table 4-2. Underground Storage Tank Inventory

Tank No.	Location	Installation Date	Tank Capacity (gal)	Tank Material	Piping Material	Tank Contents	Leak Detection	Corrosion Protection	Spill/Overfill Prevention
1	Upper Level Service Lane	1986	8,000	Fiberglass; double-walled	Fiberglass	Engine Oil	Yes	N/A	Yes
2	Upper Level Service Lane	1986	20,000	Fiberglass; double-walled	Fiberglass	Diesel	Yes	N/A	Yes
3	Upper Level Service Lane	1986	20,000	Fiberglass; double-walled	Fiberglass	Diesel	Yes	N/A	Yes
4	Upper Level Service Lane	1986	20,000	Fiberglass; double-walled	Fiberglass	Diesel	Yes	N/A	Yes
5	Exit Ramp from Lower Level	1986	6,000	Fiberglass; double-walled	Fiberglass	Automatic Transmission Fluid	Yes	N/A	Yes
6*	Upper Level Service Lane	1986	4,000	Fiberglass	Steel	-	-	-	-
7*	Upper Level Service Lane	1986	4,000	Fiberglass	Steel	-	-	-	-

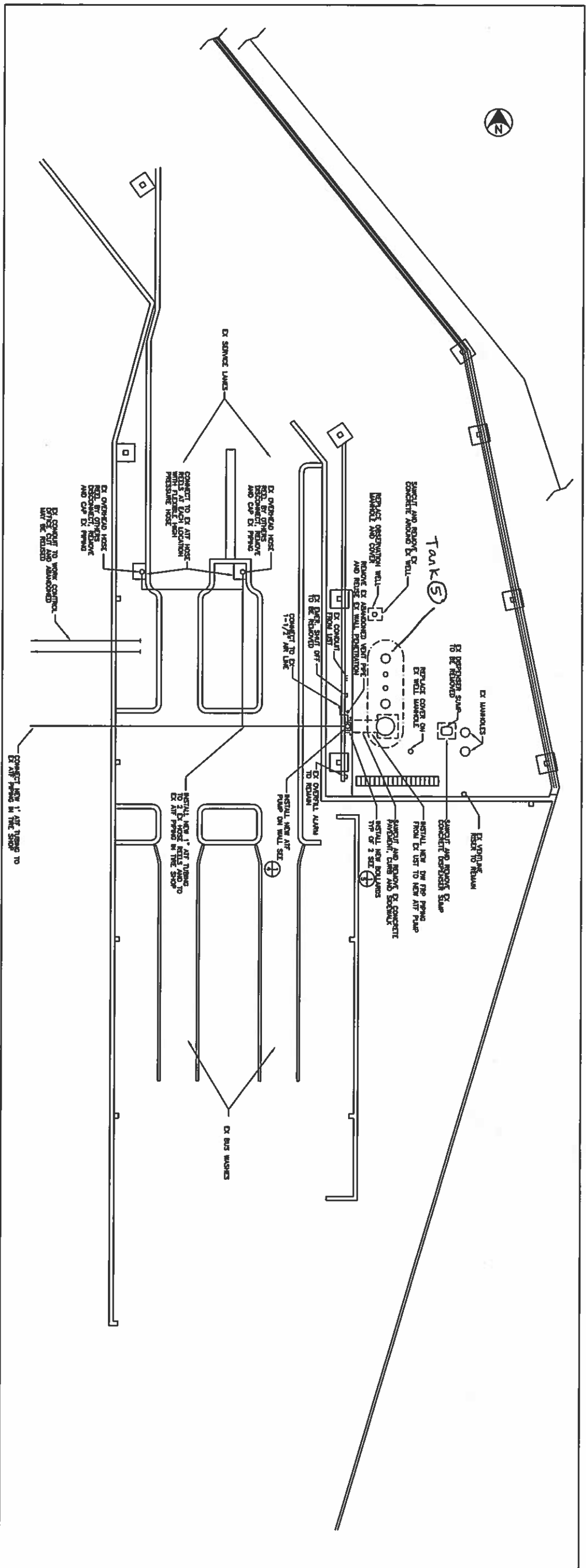
* Abandoned in Place

[illegible]

AST	ABOVEGROUND STORAGE TANK
H	HORIZONTAL
LF	LINEAR FEET
OCEN	ON CENTER EACH WAY
OMS	OL/WATER SEPARATOR
SIP	SUBMERSIBLE TURBINE PUMP
UST	UNDERGROUND STORAGE TANK
V-R	VEEDER ROOT
V	VERTICAL

SCALE: 1/8" = 1'-0"

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY		NORTHERN BUS DIVISION	
OFFICE OF ENGINEERING AND TECHNICAL SUPPORT		UST ABANDONMENT AND AST INSTALLATION UST ABANDONMENT AND AST INSTALLATION PLAN	
DESIGNED <u>STONE</u> <u>7/98</u> DATE		SCALE 1/8" = 1'-0" 	
DRAWN <u>KEMLEP</u> <u>7/98</u> DATE		DRAWING NO. 9807-011	
CHECKED <u>STONE</u> <u>7/98</u> DATE		SHEET NO. 2 OF 5	
APPROVED <u>J.S.</u> <u>7/98</u> DATE			



WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

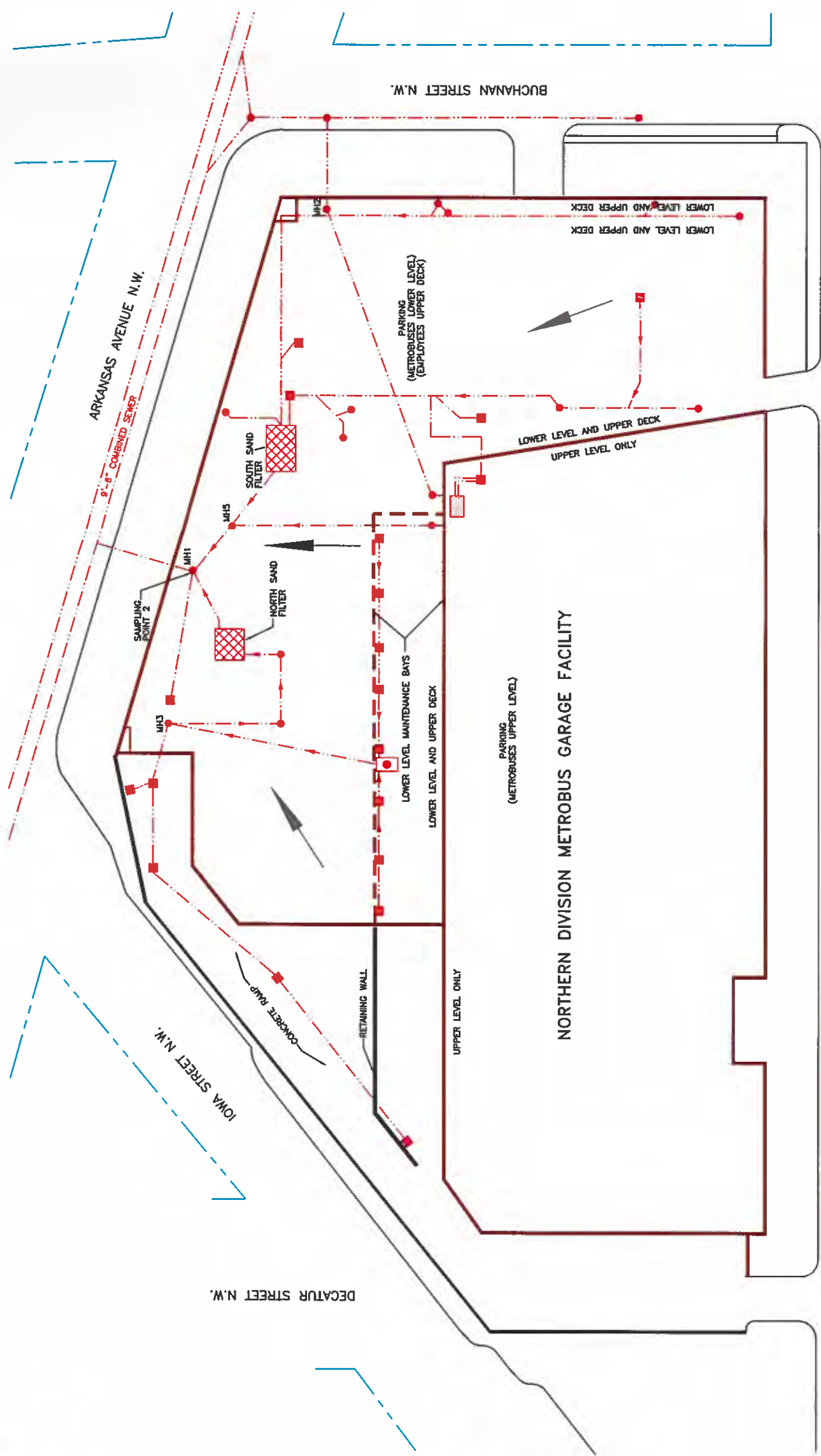
VERSAR DESIGN ENGINEERING DEPARTMENT

APPROVED _____

TITLE _____

Versar
INC.
10000 WILSON BLVD., SUITE 200
SPRINGFIELD, MA 01104
(781) 730-5000

NORTHERN BUS DIVISION	
UST CONVERSION AND ATF PUMP INSTALLATION	
PLAN	
SCALE	DRAWING NO.
1/8" = 1'-0"	1103-00102
	SHEET NO.
	3 OF 5



LEGEND:

- OIL INTERCEPTOR
- SAND FILTER
- STORM SEWER INLET
- MANHOLE
- COMBINED SEWER SYSTEMS
- FLOW ARROW
- OIL/GRIT SEPARATOR

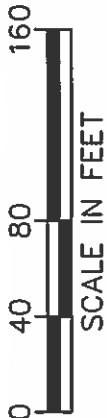
WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY



Suite 150
12420 Milestone Center Drive
Germantown, MD, 20876

NORTHERN BUS DIVISION
COMBINED SEWER DRAINAGE AND
POTENTIAL SPILL ROUTES

REVISED:	MS 03/28/12	SCALE:	AS SHOWN
CHECKED:	JF 03/28/12	FIGURE	B-2



14th STREET N.W.



December 12, 2018

Attn: PCS, Inc.

Re: WMATA Northern Bus Division- 4613 14th Street, NW, Washington, DC 20011
• **Lead Paint Chip Bulk Sampling**

On November 29, 2018 H E Consulting, Inc., (HEC) was requested to collect Lead Paint Chip Bulk samples. HEC collected a total of 2 Lead Paint Chip Bulk samples. The samples collected, location, and results are listed below:

Samples Collected and Results:

- 112918-JN04: Area 1, Room 52, Paint Chip (White), **0.017%Pb**
- 112918-JN11: Area 1, Room 52, Paint Chip (White), **0.011%Pb**

Conclusion: The analytical results show that Lead Paint Chip Sample 112918-JN04 and 112918-JN11 yielded results lower than 0.5%Pb content and should not be considered a LBP (Lead Based paint). Analysis of all samples were conducted by AMA Analytical Services, Inc. (See Appendix A for Lab Results)

If there are any questions concerning our findings, please do not hesitate to call. Thank you for selecting H E Consulting, Inc. for your environmental needs.

Sincerely,

H E CONSULTING, INC.

Tyler J. Ruark
Staff Scientist / Project Manager

Attachments: Appendix A- Lab Results

Haun Environmental Consulting Inc. 3930 Cove Rd Edgewater, MD 21037

APPENDIX A: Laboratory Results



CERTIFICATE OF ANALYSIS



Chain of Custody: 611640
Client: HE Consulting
Address: 3930 Cove Road
Edgewater, MD 21037
Attention: Phil Haun

Job Name: WMATA Northern Business Division -
4613 14th Street, NW, Washington,
DC 20011
Job Location: Areas #1 & #2
Job Number: PCS
P.O. Number: Not Provided

Date Submitted: 11/29/2018
Date Analyzed: 12/03/2018
Report Date: 12/03/2018
Date Sampled: 11/29/2018
Person Submitting: J. Northern

Summary of Atomic Absorption Analysis for Lead

AMA Sample Number	Client Sample Number	Analysis Type	Sample Type	Reporting Limit	Final Result	Comments
611640-1	112918-JN04	Flame AA	Paint Chip	0.0073 %Pb	0.017 %Pb	
611640-2	112918-JN11	Flame AA	Paint Chip	0.009 %Pb	0.011 %Pb	

Analysis Method for Flame: Air, Wipes, Paints, and Soil/Solids: EPA 600/R-93/200(M)-7000B; Water: SM-3111B Analysis Method For Furnace: Air, Wipes, Paints, and Soil/Solids : EPA 600/R-93/200(M)-7010; Water: SM-3113B N/A = Not Applicable mg/Kg = parts per million (ppm) on a dry weight basis mg/L = parts per million (ppm) %Pb = percent lead on a dry weight basis ug = micrograms ug/L = parts per billion (ppb)
Note: All samples were received in good condition unless otherwise noted.
Note: All results have two significant digits. Any additional digits shown should not be considered when interpreting the result.

Analyst(s): George Land

See QC Summary for analytical results of quality control samples associated with these samples.

Air and Wipe results are not corrected for any blank results. Final results for air and wipe samples are based on client supplied information not verified by this laboratory.

All results are to be considered preliminary and subject to change unless signed by the Technical Director or Deputy.

Technical Director G. Edward Carney

This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public, and these Laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from us. Sample types, locations, and collection protocols are based upon the information provided by the persons submitting them and, unless collected by personnel of these Laboratories, we expressly disclaim any knowledge and liability for the accuracy and completeness of this information. Residual sample material will be discarded in accordance with the appropriate regulatory guidelines, unless otherwise requested by the client. This report must not be used to claim, and does not imply product certification, approval, or endorsement by NY ELAP, AIHA-LAP, or any agency of the Federal Government. All rights reserved. AMA Analytical Services, Inc.



QC Summary for SDG #58419

Overview

Analysis Type: Flame AA
Sample Type: Paint Chip
Analysis Date: 12/03/2018

Samples Included

611640-1 611640-2

Preparation Blank ✓

Result: -0.027 ppm

Report Limit Verification Sample ✓

Percent Recovery: 97.1%

Duplicates ✓

RPD: 21.9%

Matrix Spike Analysis ✓

Spiked Sample Percent Recovery: 103.1%
Spike Duplicate Percent Recovery: 102.4%
RPD: 0.6%

Matrix Blank ✓

Result: 0.049 ppm

Laboratory Control Sample #1 ✓

Percent Recovery: 116.6%

Laboratory Control Sample #2 ✓

Percent Recovery: 104.23%

Reference Sample

Percent Recovery: N/A

Calibration Curve ✓

Correlation: 0.998794

Serial Dilution / Bench Spike

Serial Dilution RPD: N/A
Bench Spike Percent Recovery: N/A

Notes



AMA Analytical Services, Inc.

Focused on Results www.amalab.com
 AIHA-LAP (#100470) NVLAP (#101143-0) NY ELAP (10920)
 4475 Forbes Blvd. • Lanham, MD 20706
 (301) 459-2640 • (800) 346-0961 • Fax (301) 459-2643

CHAIN OF CUSTODY

(Please Refer To This
Number For Inquiries)

304401-PLM

Handwritten: 2012, 611010-PO

Mailing/Billing Information:

1. Client Name: HEC
 2. Address 1: _____
 3. Address 2: _____
 4. Address 3: _____
 5. Phone #: 602-207-5737 Fax #: _____

Submittal Information:

1. Job Name: Wmara Northern Bug Disposal 4615 14th Street NW 20011
 2. Job Location: Areas 1+2
 3. Job #: 065 P.O. #: _____
 4. Contact Person: J. Northern Cell: 443-542-2264
 5. Collected by: J. Northern Cell: _____

Reporting Info (Results provided as soon as technically feasible). If no TAT/Reporting Info is provided, AMA will assign defaults of 5-Day and email/fax to contacts on file.

AFTER HOURS (must be pre-scheduled) <input type="checkbox"/> 4 Hours <input type="checkbox"/> Late Night <input type="checkbox"/> Immediate Date Due: _____ <input type="checkbox"/> 24 Hours Time Due: _____ Comments: _____		NORMAL BUSINESS HOURS <input type="checkbox"/> 4 Hours <input checked="" type="checkbox"/> 5 Day + <input type="checkbox"/> Same Day <input type="checkbox"/> Next Day <input type="checkbox"/> 2 Day Date Due: <u>11/24/18</u> <input type="checkbox"/> Results Required By Noon		REPORT TO: <input checked="" type="checkbox"/> Email: <u>Johnathon Northern</u> <input checked="" type="checkbox"/> Email 2: <u>Phillip Hawn</u> <input type="checkbox"/> Verbal: _____
--	--	--	--	---

Asbestos Analysis

*PCM Air - Please Indicate Filter Type: _____
☐ NIOSH 7400 (QTY)
☐ Fiberglass (QTY)
 TEM Air* - Please Indicate Filter Type: _____
☐ AHERA (QTY)
☐ NIOSH 7402 (QTY)
☐ Other (specify) _____ (QTY)

TEM Bulk

☐ ELAP 198.4/Chatfield (QTY)
☐ NY State PLM/TEM (QTY)
☐ Residual Ash (QTY)
☐ Vermiculite

TEM Dust*

☐ Qual. (pres/abs) Vacuum/Dust (QTY)
☐ Quan. (s/area) Vacuum D5755-95 (QTY)
☐ Quan. (s/area) Dust D6480-99 (QTY)

TEM Water

☐ Qual. (pres/abs) (QTY)
☐ ELAP 198.2/EPA 100.2 (QTY)
☐ EPA 100.1 (QTY)

☒ All samples received in good condition unless otherwise noted.
☐ TEM Water samples _____ °C

Metals Analysis

☒ Pb Paint Chip 2 (QTY)
☐ *Pb Dust Wipe (wipe type _____) (QTY)
☐ *Pb Air (QTY)
☐ Pb Soil/Solid (QTY)
☐ Pb TCLP (QTY)
☐ Drinking Water ☐ Pb (QTY) ☐ Cu (QTY) ☐ As (QTY)
☐ Waste Water ☐ Pb (QTY) ☐ Cu (QTY) ☐ As (QTY)
☐ Pb Furnace (Media _____) (QTY)

Fungal Analysis

Collection Apparatus for Spore Traps/Air Samples: _____
 Collection Media _____
☐ *Spore-Trap (QTY) ☐ Surface Vacuum Dust (QTY)
☐ *Surface Swab (QTY)
☐ *Surface Tape (QTY)
☐ Other (Specify) _____ (QTY)

PLM Bulk

☒ EPA 600 - Visual Estimate 12 (QTY) ☒ Pos Stop
☐ EPA Point Count (QTY)
☐ NY State Friable 198.1 (QTY)
☐ Grav. Reduction ELAP 198.6 (QTY)
☐ Other (specify) _____ (QTY)

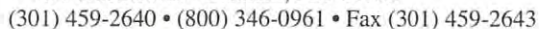
MISC

☐ Asbestos Soil PLM (Qual) PLM (Quan) PLM/TEM (Qual) PLM/TEM (Quan)
 *It is recommended that blank samples be submitted with all air and surface samples

If field data sheets are submitted, there is no need to complete bottom section.

CLIENT ID #	SAMPLE INFORMATION SAMPLE LOCATION/ ID	DATE/ TIME	VOL (L)/ Wipe Area	ANALYSIS						MATRIX							COMMENTS / SPECIAL INSTRUCTIONS
				TEM	PCM	PLM	LEAD	MOLD	AIR	BULK	DUST	WATER	OTHER	SPORE TRAP	TAPE	SWAB	
112915-0001	concrete ceiling Area #1	Room #52															
112915-0002	concrete ceiling Area #1	#52															
112915-0003	concrete ceiling Area #1	#22															
112915-0004	paint chip white Area #1	#52					X			X							
112915-0005	mortar w/ CMU block Area #1	#52															
112915-0006		↓															
112915-0007		↓															
112915-0008	concrete wall Area #1	#52															
112915-0009		↓															
112915-0010		↓															
112915-0011	paint chip white Area #1	#52					X			X							
112915-0012	concrete ceiling Area #2	Open area															
112915-0013	concrete ceiling Area #2	Open area															

Relinquished by:	Signature	Date	Time	Shipping Information
Received by: <u>BW Hahn</u>	<u>[Signature]</u>	<u>11/24/18</u>	<u>1530</u>	<input type="checkbox"/> UPS <input type="checkbox"/> In-Person <input type="checkbox"/> Other <input type="checkbox"/> FedEx <input type="checkbox"/> Drop Box <input type="checkbox"/> USPS <input type="checkbox"/> Courier



☐ UPS ☐ In-Person ☐ Other _____
☐ FedEx ☐ Drop Box
☐ USPS ☐ Courier _____

APPENDIX 12: ENVIRONMENTAL JUSTICE ANALYSIS

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WMATA Northern Bus Garage

Environmental Justice Technical Memorandum

March 2022



Washington Metropolitan Area Transit Authority

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Contract FQ15190
Task Order No: CIP-19-FQ15190-ENGA-001

WMATA Northern Bus Garage

Environmental Justice Technical Memorandum

March 2022



Washington Metropolitan Area Transit Authority

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1 INTRODUCTION

The Washington Metropolitan Transit Authority (WMATA) plans to replace the existing Northern Bus Garage at 4615 14th Street, NW Washington, DC. Replacement of the existing bus garage is necessary as the existing facility has met its useful life and structural improvements are needed in order to maintain efficient storage/maintenance, replace deteriorating concrete conditions, better accommodate articulated buses, and to reduce deadheading (non-revenue service). The project is expected to begin in 2022 and be completed by 2026.

WMATA's Board has adopted a goal of transitioning to a fully zero-emission bus fleet by 2045. The project is being designed to be WMATA's first all-electric bus garage, with infrastructure and equipment needed to run 100 percent electric vehicles at the Northern Bus Garage. However, this document does not assume the implementation of EV buses within the timeframes associated with the demolition, reconstruction, and opening of the bus garage which is anticipated to begin in 2022 and be completed by 2026.

The current facility is located on an approximately 5.25-acre site in northwest Washington, DC, and WMATA will rebuild the new facility on the existing, WMATA-owned site. The garage is bounded by 14th Street NW, Buchanan Street NW, Arkansas Avenue NW, and Iowa Avenue NW.

WMATA plans to demolish the existing garage but maintain the original building façade (constructed in 1906) along 14th Street NW. The replacement garage would be located entirely within the existing footprint of the current garage. The storage and maintenance capacity of the replacement garage would be 150 buses which is 25 buses less than the current capacity of 175 buses.

The improvements at Northern Bus Garage include the following:

- Reorganize the design and number of maintenance bays and bus storage parking to meet current and future needs;
- Design bus service bays to better accommodate articulated buses serving downtown Washington, DC;
- Construct column spacing to support 14-foot minimum stall width, to allow for more efficient use of garage space;
- Construct service lanes on level surfaces to minimize the risk of rolling buses during refueling and cleaning operations;
- Minimize the number of access points along the perimeter to allow for proper access control, for safety and security concerns;
- Re-design the facility to include counter-clockwise circulation to improve operators' visibility while turning; and
- Minimize the number of level changes within bus circulation and parking areas, to support safe and efficient operations; and
- Accommodate the additional equipment that will be needed to support the zero-emission bus fleet including charging stations and overhead layouts for the charging pantographs and the rooms needed for the additional electric switchgear.

The proposed design would also result in:

- Adequate height clearance for newer diesel buses and future overhead charging for electric buses;
- Modernization of existing garage with natural light and updated equipment;

- Reduction of operating costs through sustainable strategies including a green roof, electric vehicle charging equipment at 10 parking spaces, and a solar array;
- Incorporation of a retail element for community integration along 14th Street NW; and
- Addition of 100 percent filtered exhaust air, which requires an extensive area of indoor mechanical space.

The upgraded facility would relocate a portion of current employee parking from on-street parking in the surrounding neighborhood to on-site parking. Currently, there are 212 on-site parking spaces for employees and non-revenue vehicles. The proposed project includes 306 onsite parking spaces for employees and non-revenue vehicles—more than is required by DC code—as well as 20 parking spaces for retail employees.

The new facility would continue to provide services such as cleaning (interior and exterior), inspections, fueling and washing, running repairs, parts storage, crew reporting and dispatching, and employee service and welfare areas. However, previous heavy repairs and paint booth services would no longer be conducted at the facility as a mitigation stemming from community feedback. The new facility would accommodate bus technology of clean diesel, hybrid electric diesel, and zero emission buses.

The purpose of this technical memorandum is to assess the potential for the proposed project to cause disproportionately high and adverse impacts on environmental justice (EJ) populations in accordance with Executive Order (EO) 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*. EO 12898 requires that Federal agencies identify and address disproportionately high and adverse impacts resulting from Federal projects on minority and low-income communities.

As stated in Federal Transit Administration (FTA) Circular 4703.1, *Environmental Justice Policy Guidance for Federal Transit Administration Recipients*, the United States Department of Transportation (USDOT) must make EJ part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of programs, policies, and activities on minority populations or low-income populations. FTA Circular 4703.1 provides the following definitions for minority and low-income populations:

- A **minority population** is defined as any readily identifiable group or groups of minority persons who live in geographic proximity and, if circumstances warrant, geographically dispersed or transient persons such as migrant workers or Native Americans who will be similarly affected by a proposed project. This includes persons who are American Indian or Alaska Native, Asian, Black or African American, Hawaii or other Pacific Island Native, and Hispanic or Latino. This analysis also considers persons who identified as being either “some other race” or “two or more races” as minorities.
- A **low-income person** is one whose median household income is at or below the Department of Health and Human Services (HHS) poverty guidelines. The circular notes that an EJ analysis may also use a locally developed threshold, such as a percentage of median income for the area, provided the threshold is at least as inclusive as the HHS poverty guidelines. A **low-income population** is any readily identifiable group of low-income persons who live in geographic proximity, and, if circumstances warrant, geographically dispersed or transient persons who will be similarly affected by a proposed project.

2 REGULATORY CONTEXT AND METHODOLOGY

This section summarizes the relevant regulatory context for evaluating impacts to minority and low-income populations and describes the methodology for evaluating the Project's potential adverse effects on EJ populations.

2.1 REGULATORY CONTEXT

The analysis presented in this technical memorandum is consistent with the following:

- Executive Order (EO) 12898 of February 11, 1994: *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* requires the US Department of Transportation (DOT) and FTA to make environmental justice part of their mission by identifying and addressing disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations and low-income populations.¹
- FTA Circular 4703.1 *Environmental Justice Policy Guidance for Federal Transit Administration Recipients* (2012) provides recipients of FTA financial assistance with guidance in order to incorporate environmental justice principles into plans, projects, and activities that receive funding from FTA.²
- USDOT Order 5610.2a *Order to Address Environmental Justice in Minority Populations and Low-Income Populations* (2012) sets for the USDOT policy to consider EJ principles in all DOT programs, policies, and activities. It describes how the objectives of EJ will be integrated into planning and programming, rulemaking, and policy formulation. The Order sets forth steps to prevent disproportionately high and adverse effects to EJ populations through Title VI and EJ analyses and sets guidelines for avoidance, prevention, minimization, and mitigation.³

2.2 METHODOLOGY

2.2.1 IDENTIFICATION OF ENVIRONMENTAL JUSTICE POPULATIONS

U.S. census block group data were used to identify minority and low-income populations within the study area as well as a larger geographic area used for comparison. The study area for demographics was assessed at a ¼ mile distance from the site boundary. The ¼ mile distance was used because it accounts for impacts, such as changes in air quality, noise, or traffic, that may adversely or disproportionately affect low-income or minority communities.

For the purposes of this analysis, the study area was compared to the WMATA service area (comprising Arlington County, the City of Alexandria, the City of Falls Church, Fairfax County, and the City of Fairfax in Virginia; Prince George's County and Montgomery County in Maryland; and the District of Columbia as shown in **Figure 1**). In addition, the study area was compared to the District of Columbia as a whole.

According to the 2018 American Community Survey (ACS), 63.8 percent of the population of the District of Columbia were minority individuals, and 58 percent of the WMATA service area were minority. In accordance with FTA guidance, the analysis used 150 percent of the HHS poverty threshold (\$36,900 for a family of four in 2018) to determine the presence of low-income populations.

¹ EO 12898

² FTA Circular 4703.1

³ USDOT Order 5601.2

The analysis used this higher threshold (rather than the nationwide threshold of \$24,600) because median incomes in the District of Columbia and the WMATA service area are higher than nationally. The 2018 ACS reports incomes using brackets; therefore this analysis used \$40,000 as the threshold. According to the 2018 ACS, 28.8 percent of households in the District of Columbia have incomes below \$40,000 and 18.6 percent of households in the WMATA service area have incomes below this threshold.

In addition to the demographic measures described above, this analysis used the presence of dedicated affordable housing units to identify low-income populations and the locations of churches, schools, social service organizations, and health centers that may be of economic or cultural importance to minority or low-income populations to determine the presence of EJ populations

2.2.2 IDENTIFICATION OF DISPROPORTIONATELY HIGH AND ADVERSE EFFECTS

The analysis was prepared in accordance with FTA Circular 4703.1 *Environmental Justice Policy Guidance for Federal Transit Administration Recipients* (August 15, 2012). As residents of the study area are largely minority and low-income, it was assumed that any adverse effects remaining after mitigation would be preponderantly borne by these populations. Based on FTA guidance, this evaluation involved the following steps:

-
- Determining if any adverse impacts to minority or low-income populations would be more severe or greater in magnitude than those on non-minority or low-income populations.
- Identifying if the alternatives would affect resources especially important to an environmental justice population (such as social, religious, or cultural functions).
- Analyzing whether any benefits would be accompanied by impacts to environmental justice populations.
- Determining mitigation measures, enhancements, and betterments, if needed, and their effects.

All resource categories considered in the NEPA process for the project were reviewed to identify those with the potential to result in disproportionately high and adverse effects on EJ populations. Resource categories with no adverse impacts were dismissed from the analysis as, by definition, they would not disproportionately adversely affect minority or low-income populations. For impact areas with potential adverse effects, the remaining effects following minimization and mitigation were further examined to determine whether the activity would result in a “disproportionately high and adverse effect on human health or the environment.”⁴

The EJ analysis was conducted by considering the geographical distribution of potentially disproportionate adverse impacts within the study area and whether they would be concentrated in close proximity to residences, particularly known affordable housing units; fall mostly on facilities or activities of cultural or economic importance to such persons; or otherwise affect minority or low-income persons more than the general population.

As shown in **Figure 1**, WMATA’s bus operations and maintenance facilities are evenly dispersed throughout the WMATA service area and the region. WMATA selects locations for its facilities based on service needs and available property that can be developed to meet WMATA program requirements. Typically, bus garages are located within close proximity of the areas that the buses serve to reduce

⁴ FTA Circular 4703.1

deadhead times.⁵ Each bus garage is therefore part of a program of facilities throughout the region developed to support the operation of the WMATA bus network. Therefore, the EJ analysis considers the potential for disproportionate adverse impacts in the context of the regional program of bus operations and maintenance facilities.

3 ENVIRONMENTAL JUSTICE POPULATIONS

This section summarizes the existing conditions for EJ populations and provides an overview of demographic data for the study area. Based on the analysis of existing demographics, described in more detail in the sections below, both minority and low-income populations reside in the study area. Therefore, **Section 4, Potential Impacts**, describes the analysis of the potential for disproportionately high and adverse effects to these populations.

With the exception of Census Tract 26, Block Group 2,⁶ the block groups within ¼ mile of Northern Bus Garage are all in the 16th Street Heights neighborhood of Washington, DC. The neighborhood developed in the 1920s as a streetcar suburb, spurred by the extension of the 14th Street Line.⁷ The neighborhood is primarily residential with small pockets of retail, including the part of 14th Street across the street from Northern Bus Garage. The stretch of 16th Street NW that forms the western edge of the neighborhood is known as “God’s Boulevard” due to the large concentration of houses of worship.⁸ Since the 1960s, the residents of 16th Street Heights have been predominately African American, but over the past 20 years the proportion of African Americans has fallen.⁹

3.1 MINORITY POPULATIONS

As shown in **Table 1**, the population of the study area is majority-minority, with 64.1 to 88 percent of the total population identifying as minority, depending on the Census block group. As a result, impacts within the study area would be predominantly borne by EJ populations. **Figure 2** shows the concentration of minority populations in the study area.

⁵ “Deadhead” is a transit term which means the miles and hours that a vehicle travels when out of revenue service (not serving passengers).

⁶ Census Tract 26, Block Group 2 is located across 16th Street in the Crestwood neighborhood.

⁷ RLAH Real Estate, “16th Street Heights.” Accessed from <https://www.rlahre.com/neighborhood/16th-street-heights/> on February 4, 2022.

⁸ DC Urban Turf, “16th Street Heights: Taking it Slow on God’s Boulevard.” November 9, 2017. Accessed from https://dc.urbanturf.com/articles/blog/16th_street_heights_taking_it_slow_on_gods_boulevard/13235 on February 4, 2022.

⁹ Sara Gebhardt, “Hazy on Borders, Residents are Sure of 16th Street Heights,” *Washington Post*, February 2, 2008. Accessed from <https://www.washingtonpost.com/wp-dyn/content/article/2008/02/01/AR2008020101634.html> on February 4, 2022.

Figure 1 – WMATA Service Area and Locations of Bus Operations and Maintenance Facilities

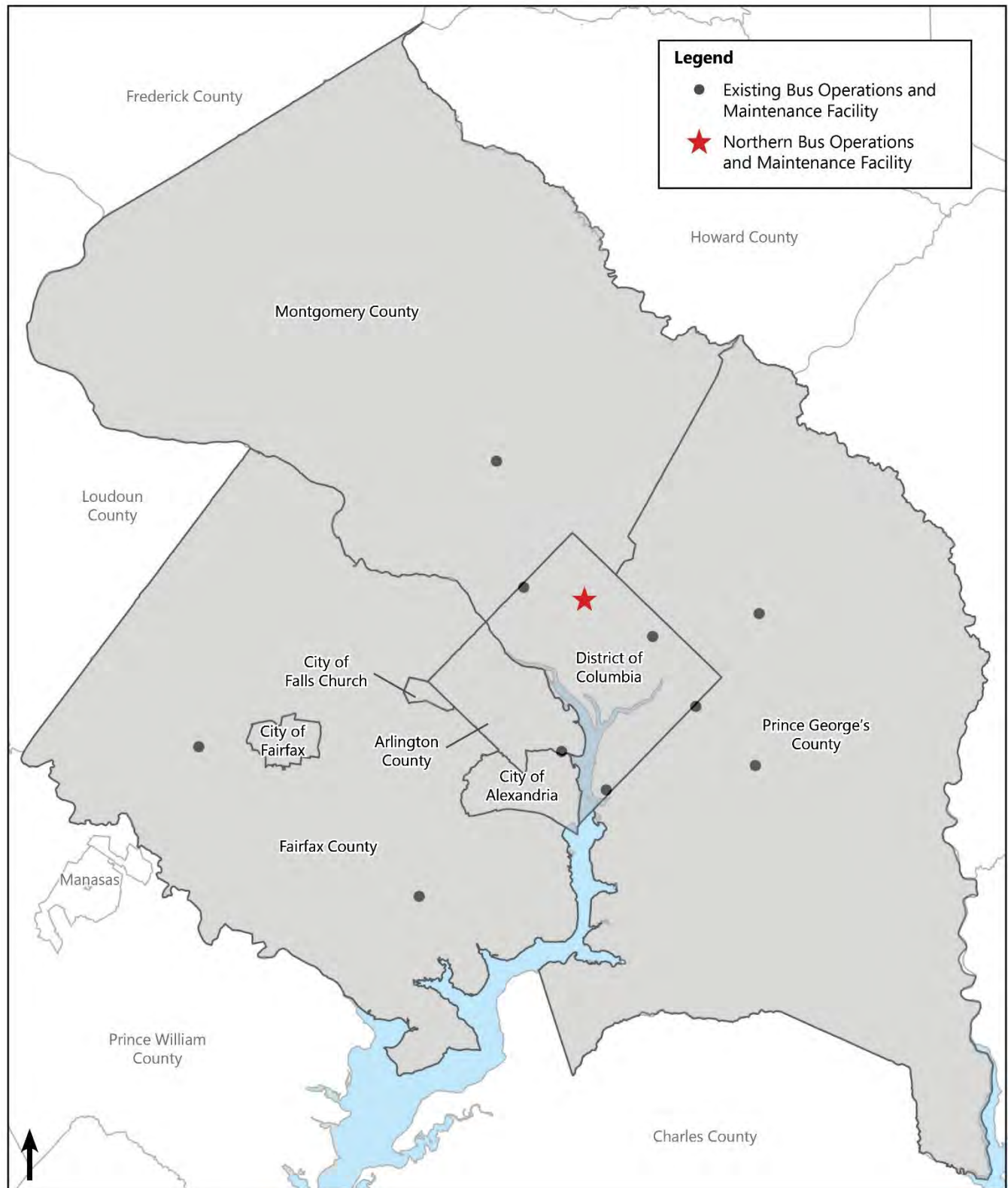


Figure 2 – Minority Populations within the Project Study Area

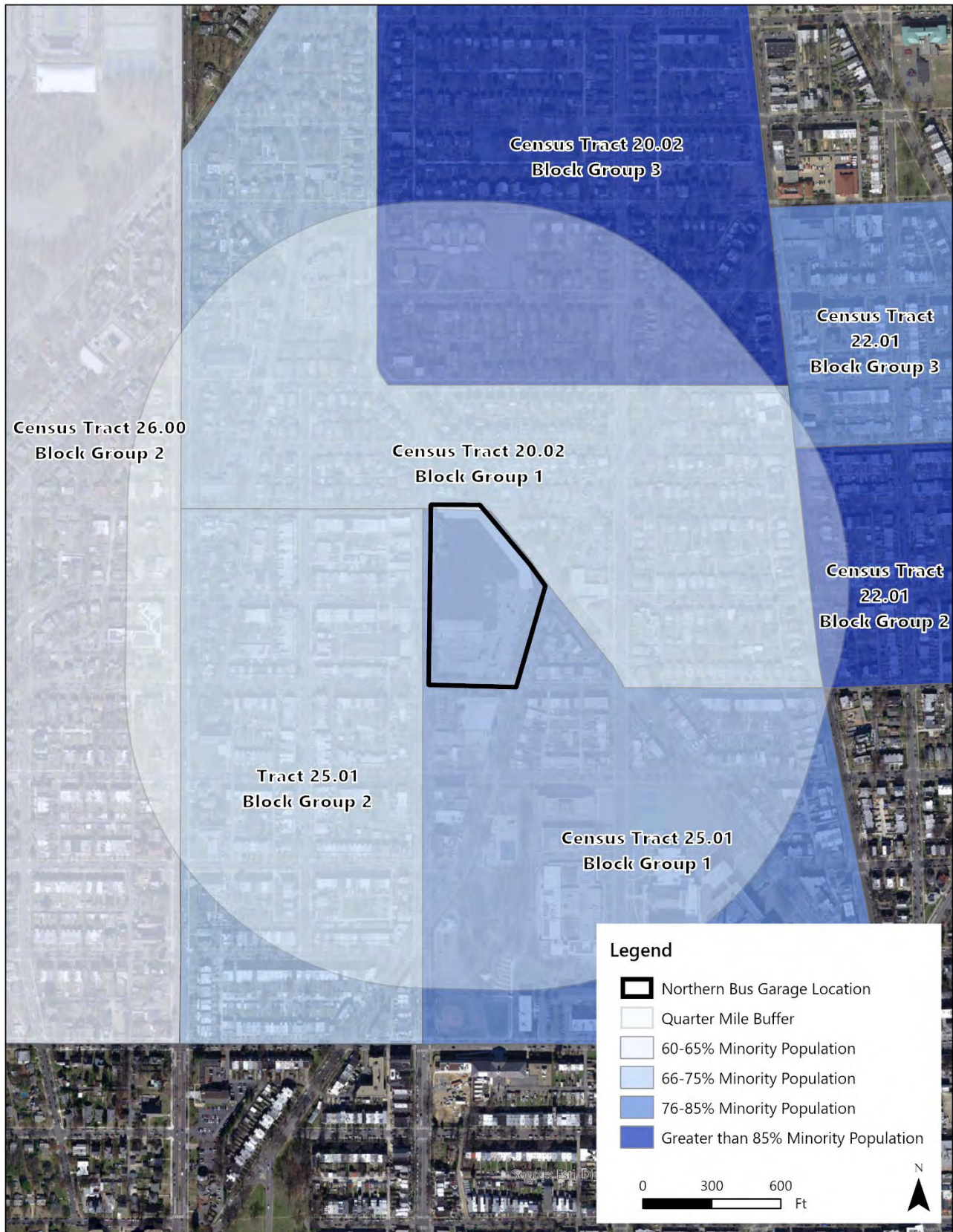


Table 1 – Minority Populations

	Total Population	Minority Population	Percent of Total Population
Census Tract 20.02, Block Group 1	1,101	739	67.1
Census Tract 20.02, Block Group 3	1,557	1,370	88.0
Census Tract 22.01, Block Group 2	1,291	1,121	86.8
Census Tract 22.01, Block Group 3	744	633	85.1
Census Tract 25.01, Block Group 1	1,663	1,427	85.8
Census Tract 25.01, Block Group 2	1,626	1,267	77.9
Census Tract 26, Block Group 2	1,533	983	64.1
District of Columbia	684,498	436,441	63.8
WMATA Service Area	4,200,602	2,198,335	52.3

Source: National Census Data, 2018 American Community Survey (ACS) 1-year and 5-year estimates.

3.2 LOW-INCOME POPULATIONS

As noted in **Section 2.2.1, Identification of Environmental Justice Populations**, this analysis uses \$40,000 in annual household income as the threshold to identify low-income populations. **Table 2** lists the proportion of each block group making less than \$40,000 annually and **Figure 3** shows the concentration of low-income populations in the study area, including the locations of dedicated affordable housing units. Census Tract 20.02, Block Group 1 has one existing affordable housing development (Cornerstone Community Supportive Housing, at 4800 Arkansas Avenue, NW) with 7 affordable units, and another 3 units are under construction at 4803 Georgia Avenue NW.

Table 2 – Household Annual Income

Percent of Households									
	Census Tract 20.02, Block Group 1	Census Tract 20.02, Block Group 3	Census Tract 22.01, Block Group 2	Census Tract 22.01, Block Group 3	Census Tract 25.01, Block Group 1	Census Tract 25.01, Block Group 2	Census Tract 26, Block Group 2	District of Columbia	WMATA Service Area
Less than \$10,000	0.0	0.0	0.0	8.5	16.2	8.8	0.0	9.2	4.4
\$10,000 to \$14,999	0.0	1.6	6.6	15.9	15.9	0.0	0.0	4.5	2.3
\$15,000 to \$19,999	0.0	2.3	4.7	8.5	1.3	0.0	1.4	3.4	2.1
\$20,000 to \$24,999	0.0	5.1	1.4	4.1	10.7	0.0	1.2	3.0	2.2
\$25,000 to \$29,999	0.0	0.0	0.0	0.0	7.6	0.0	1.0	3.4	2.6
\$30,000 to \$34,999	8.3	0.0	10.3	3.7	0.0	5.2	0.0	2.9	2.5
\$35,000 to \$39,999	3.0	0.0	0.0	3.3	0.0	0.0	0.0	2.4	2.5
Below Poverty Threshold	11.2	9.0	23.0	43.9	51.6	14.0	3.7	28.8	18.6
\$40,000 to \$44,999	0.0	0.0	4.4	2.6	0.0	0.0	0.0	2.8	2.6
\$45,000 to \$49,999	0.0	0.0	0.0	0.0	0.0	3.1	0.0	2.7	2.4
\$50,000 to \$59,999	7.3	10.4	6.1	5.5	4.4	2.8	4.7	5.0	5.6
\$60,000 to \$74,999	4.3	5.8	29.5	0.0	9.7	5.7	3.3	7.4	8.0
\$75,000 to \$99,999	5.0	13.2	0.0	15.1	3.7	10.4	6.4	10.8	12.4
\$100,000 to \$124,999	4.0	6.5	0.0	3.7	8.6	12.8	3.1	9.3	10.9
\$125,000 to \$149,999	4.6	13.5	11.7	0.0	2.8	7.3	7.0	7.0	8.6
\$150,000 to \$199,999	2.3	15.1	13.1	4.4	10.2	9.0	15.4	9.5	12.1
\$200,000 or more	61.4	26.5	12.2	24.7	9.1	34.8	56.6	16.8	18.7

Source: National Census Data, 2018 American Community Survey (ACS) 1-year and 5-year estimates.

Figure 3 – Low-Income Populations in the Project Study Area



3.3 FACILITIES OF CULTURAL OR ECONOMIC IMPORTANCE TO MINORITY OR LOW-INCOME POPULATIONS

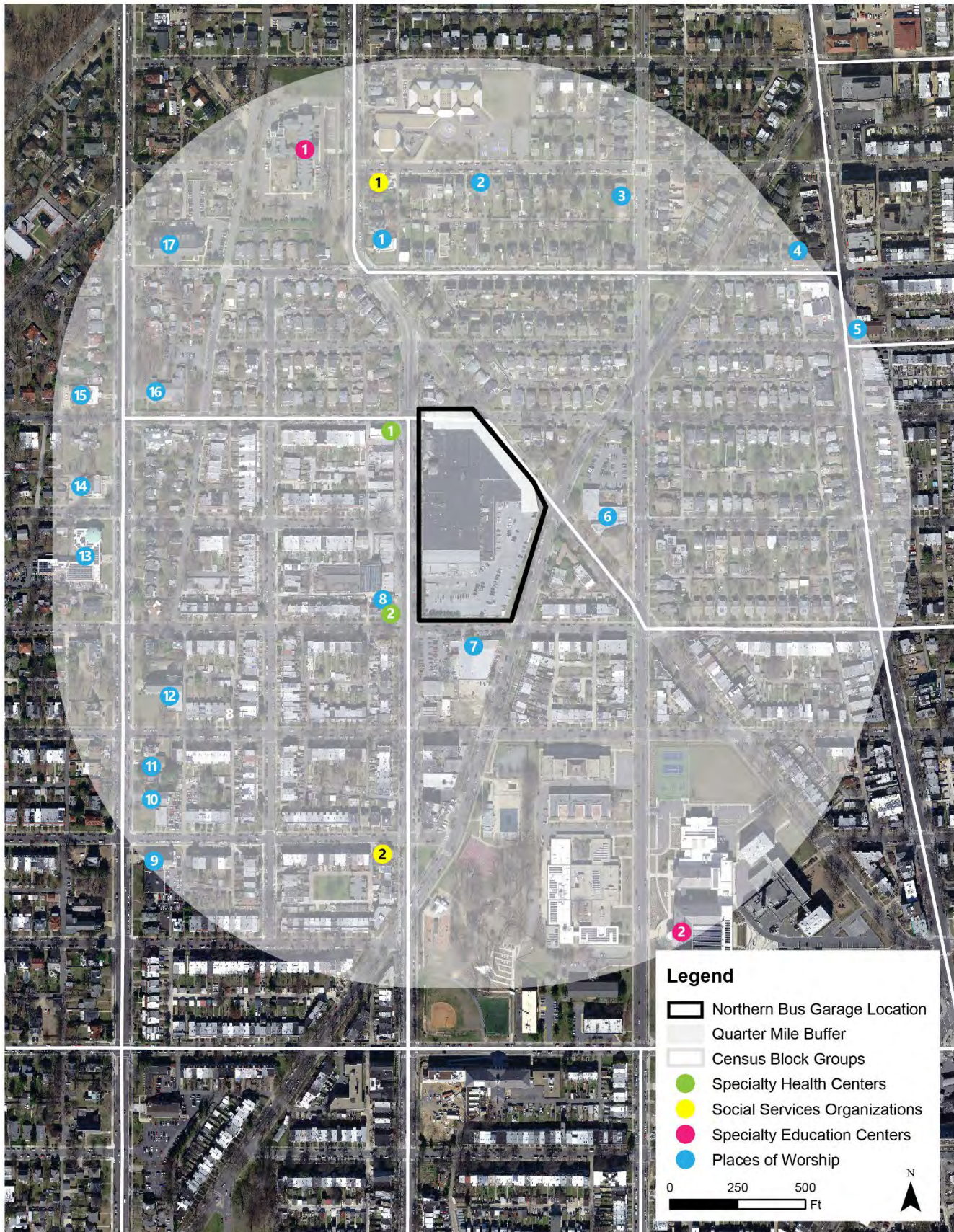
The analysis reviewed the locations of facilities that may be of economic or cultural importance to affirm the presence of EJ populations identified through the demographic analysis. As shown in **Figure 4** and listed in **Table 3**, the study area is home to over 17 places of worship, including predominantly minority- and immigrant-based congregations; two specialty health centers catering specifically to minority, underserved, and immigrant populations; two specialty schools, both serving minority populations; and two social services organizations, with one providing affordable daycare for youth minority populations and the other providing housing for the homeless. Both health centers are located on 14th Street NW across the street from the project, and three churches are located within one block of the project.

Table 3 – Facilities of Cultural or Economic Importance to Minority or Low-Income Populations

ID	Name	Address
Places of Worship		
1	St. Paul African Methodist Episcopal Church	4901 14th Street NW
2	Macedonia Church of God In Christ	1320 Farragut Street NW
3	Maranatha Gospel Hall	4910 13th Street NW
4	St Joseph Baptist Church	1203 Emerson Street NW
5	Faith Assembly of Christ	4801 Georgia Avenue NW
6	Peoples Congregational United Church of Christ*	4704 13th Street NW
7	The Ethiopian Orthodox Tewahedo Religion Church*	1350 Buchanan St NW
8	Iglesia de Dios La Promesa*	4604 14th Street NW
9	St George Antiochian Orthodox Church	4335 16th Street NW
10	Mosaic Church of the Nazarene	4401 16th Street NW
11	Iglesia Pentecostal Emmanuel	4411 16th Street NW
12	Simpson-Hamline United Methodist	4501 16th Street NW
13	Nineteenth Street Baptist Church	4606 16th Street NW
14	Washington Seventh Day Baptist Church	4700 16th Street NW
15	Capital Spanish Seventh-day Adventist Church	4800 16th Street NW
16	Church of Christ	4801 16th Street NW
17	The Church of Jesus Christ Latter Day Saints	4901 16th Street NW
Health Centers		
1	Andromeda Transcultural Health*	1400 Decatur Street NW
2	Ethio American Health Center*	4515 14th Street NW
Schools		
1	Latin American Montessori Bilingual Chater School	5000 14th Street NW
2	Roosevelt S.T.A.Y Opportunity Academy	4301 14th Street NW
Social Services Organizations		
1	Youth Organizations United to Rise Community Center	4913 14th Street NW
2	The Webster House	4326 14th Street NW

* Located within one block of the project site

Figure 4 – Facilities of Economic or Cultural Importance to Minority or Low-Income Populations



4 POTENTIAL IMPACTS

This section describes potential impacts due to the WMATA Northern Bus Garage Replacement Project. In order to determine whether the project would result in disproportionately high and adverse effect on human health or the environment, the analysis first reviewed the potential for adverse effects. For impact areas with no potential adverse effects, no further analysis was conducted because there would be no potential for disproportionately high adverse effects to EJ populations; however, resource areas that the local community identified were of concern were further analyzed. For impact areas with potential for an adverse effect, proposed avoidance, minimization, and mitigation measures were then considered to determine whether adverse effects would remain after implementation of those measures. As shown in **Table 4**, adverse effects to cultural resources and due to construction would remain following application of avoidance, minimization, and mitigation measures. These impacts were further examined to determine if adverse effects would be concentrated upon EJ populations or resources of importance to those populations.

Table 4 summarizes potential adverse effects, the avoidance, minimization, and mitigation measures committed to by WMATA, and notes whether adverse effects are expected to remain after these measures have been applied. No adverse effects are anticipated to zoning, traffic, vibration, property, public parks and recreation areas, community facilities, wetlands, floodplains, or ecologically-sensitive areas and endangered species.

Table 4 – Potential Adverse Effects

Resource	Potential Adverse Effect	Avoidance, Minimization, and Mitigation	Effects Remaining following Mitigation?
Permanent Impacts			
Air Quality	Hot spot analysis not required as the project is located in an attainment area for CO, PM2.5, and PM10. However, the community expressed concerns over air quality due to bus operations at the site.	<ul style="list-style-type: none"> Bus entrance/exits equipped with two sets of doors: outer doors are standard garage doors while inner doors are high-speed to prevent air escape. Building will also be negatively-pressured to contain emissions. All interior air treated prior to release via MERV 16 air filtration for particulate matter and chemical bonding scrubbers for gaseous vapors. 	No
Cultural Resources	The project would result in an adverse effect as it would demolish the 1906 car barn, except for the façade along 14th Street NW, and it would alter the visual appearance of the character-defining facade.	<ul style="list-style-type: none"> Preservation of the administration building and tower in their entirety as well as all frontage along 14th Street NE. Full preservation/restoration conducted on all retained elements including the administration building, tower, arches, arched windows, gable entry, and chimney. Full restoration of the 14th Street NE façade with historically accurate, matching windows but with modern materials. Installation of a new slate roof on the administration building and tower. Repairs to limestone and brick. 	Yes (adverse effect to the historic structure cannot be avoided)

Resource	Potential Adverse Effect	Avoidance, Minimization, and Mitigation	Effects Remaining following Mitigation?
		<ul style="list-style-type: none"> • Use of complementary features in new construction including similar proportions in scale and repetition of elements like windows as well as cantilever rooflines referencing the historic large arch treatments on the administration building and the tower. • Reduction in building size (15 percent reduction in total gross square footage). • Reduction in massing and height of street-facing facades: <ul style="list-style-type: none"> ○ Design heights lower than historic building. ○ Rear portion of designed building at the same height or lower than existing structure except for mid-block area along Arkansas Avenue NE where car ramp goes to the roof. • Use of high-performance masonry panels instead of metal panels. • Ensured strong Art in Transit components, with exact form dependent on further development with an artist and the community. • Installation of replica streetcar tracks in the area where streetcars used to enter and/or exit the building along 14th Street NW. • Development and installation of one to three exterior interpretive signage exhibits and up to five interior interpretive signage exhibits for the building's community room. 	
Noise	No moderate or severe noise impacts are expected to occur due to the project based on the NEPA analysis. However, the community has expressed concerns regarding the noise from buses and from operation of the facility.	<ul style="list-style-type: none"> • Rooftop mechanical units completely enclosed by building walls on the west side to reduce noise pollution. On the east side, units will not be internal, but will be located behind a brick screen to reduce noise. 	No
Hazardous Materials	Existing soil and water contamination on the site is being remediated independently of the project and therefore there is no potential for adverse effects. However, the community	<ul style="list-style-type: none"> • Elimination of paint and body shop components of garage operations. 	No

Resource	Potential Adverse Effect	Avoidance, Minimization, and Mitigation	Effects Remaining following Mitigation?
	has expressed concerns over activities that could generate hazardous materials during the operation of the facility that could adversely affect community health.		
Impacts on Water Quality, Navigable Waterways, and Coastal Zones	The facility will create surface water runoff from impervious surface cover. No adverse effect will be created as the runoff will be managed in accordance with local regulations and new stormwater best management practices will be constructed to accommodate the proposed improvements.	<ul style="list-style-type: none"> Green roof features will be incorporated into the building, including both tray boxes and soil-based planting. 	No
Safety and Security	The project is not anticipated to negatively affect the safety or security of the adjacent community or at the facility itself. A number of measures will be implemented to improve safety and security at the site.	<ul style="list-style-type: none"> MTPD office located at corner of 14th Street NE and Buchanan Street NE for greater community presence. Addition of more windows on 14th Street NE and Iowa/Arkansas Avenues NE. Sidewalk added along Iowa Avenue NE. Sidewalk along northern side of garage building widened and equipped with increased lighting. Sidewalk along 14th Street NE widened. Signal at 14th and Decatur Streets reconstructed to improve pedestrian safety. 	No
Construction Impacts			
Vibration	Since all the surrounding buildings are more than 40 feet from the project site, there is not a risk of structural damage from construction activities.	<ul style="list-style-type: none"> Reduction in bedrock removal needs by 80 percent, eliminating the need for bedrock blasting. This avoids both noise and vibration impacts. Vibration monitoring during construction. All properties within 200 feet of the facility's property boundary will be offered the opportunity to receive a pre-existing condition survey prior to the start of construction. 	No
Noise	Construction activities would comply with District and WMATA noise limits.	<ul style="list-style-type: none"> Construction will be limited to hours stipulated by DC regulation. Any work outside these hours will be conducted only after receiving an after-hours permit from DCRA. 	Yes (noise from construction cannot be completely eliminated)

Resource	Potential Adverse Effect	Avoidance, Minimization, and Mitigation	Effects Remaining following Mitigation?
		<ul style="list-style-type: none"> Construction activities will follow the noise criteria specified in Section 16.7 of the <i>WMATA Manual of Design Criteria</i>. 	
Traffic	It is anticipated that construction will require lane closures.	<ul style="list-style-type: none"> A Traffic Control Plan would be developed in accordance with the DDOT's Temporary Traffic Control Manual to manage traffic during roadway construction in the public right-of-way. 	Yes (lane closures cannot be avoided)
Air Quality	Construction activities at the facility may cause nuisance dust and construction equipment emissions. These increases are not expected to adversely impact air quality either locally or regionally.	<ul style="list-style-type: none"> Control measures may include minimizing the length of exposure of disturbed lands, sprinkling water and/or wood chips on exposed earth, and using tarpaulins on loaded trucks. WMATA will require the contractor to utilize the best available mitigation measures to prevent excessive emissions or particulates and carbon monoxide from the operation of machinery. Generally, such measures include the prohibition of unnecessary idling and operation of equipment, and appropriate pollution control equipment. 	Yes (nuisance dust and construction equipment emissions cannot be completely eliminated)

4.1 CULTURAL RESOURCES

The project would result in an adverse effect to historic properties as it would demolish the 1906 car barn, except for the façade along 14th Street NW, and it would alter the visual appearance of the character-defining façade. As part of the Section 106 consultation process, WMATA has identified measures to mitigate the adverse effect of these changes. The minimization developed in consultation with the community includes restoration of the primary 14th Street NW elevation; replacement of non-historic roofing and window materials with historically-appropriate materials; and design of the new structure to be compatible in scale, design elements, and materials with the historic façade. Additional mitigation to resolve the adverse effects to the building and provide a public benefit include the installation of replica streetcar tracks and design and installation of interpretive signage exhibits on topics related to the bus barn and the role it played in the development of the surrounding neighborhood. While the adverse effect to the historic structure cannot be avoided, the measures committed to by WMATA will benefit the community through educational components and by creating a structure that is compatible with the historic façade and is sensitive to the context of the surrounding neighborhood. In addition, the new facility will benefit the community, including local EJ populations, by providing offices for a community organization, neighborhood-serving retail, and space for community gatherings. The design commitments will benefit those most affected by alterations to the historic structure, specifically those who live, work, worship, or recreate in places in proximity to the building. The other community benefits will be equally accessible to EJ and non-EJ populations.

4.2 CONSTRUCTION IMPACTS

Following the implementation of avoidance, minimization, and mitigation measures, construction activities would result in residual noise, dust, and emission impacts from construction vehicles and construction-related activities. In addition, it is anticipated that lane closures would be required that would result in traffic impacts even with the implementation of maintenance of traffic measures. These construction-related impacts are anticipated to last for the duration of construction which is 3-4 years. The intensity of these impacts could vary depending on the proximity of populations to the project location itself and roadway users in the vicinity of the project study area. Specifically:

- Census Tract 20.02 Block Group 3 and 22.01 Block Group 2 have large percentages of both minority and low-income residents within ¼ mile of the study area; however, these block groups are not expected to experience adverse nuisance construction related impacts because of their distance from the project itself and because relative air quality and noise and vibration impacts attenuate significantly with distance and intervening homes and buildings.
- Census Tract 25.01 Block Group 1 has a high percentage of both low-income and minority residents as shown in **Figures 2 and 3** and could experience a higher degree of construction related impacts.
- The Ethiopian Orthodox Tewahedo Religion Church is adjacent to the project site and as a facility of importance to EJ populations, could experience a higher degree of construction-related impacts.

As noted in Appendix 10, the relevant noise and vibration impacts of the project are not anticipated to exceed District noise ordinance levels. Construction noise levels at locations 25 feet from the boundary of the construction site would typically be 75 dBA (Leq), which is below the District noise ordinance of 80 dBA for daytime activities. The residences in the study area are all greater than 25 feet from the project site.

Potential traffic impacts would be minimized through a Traffic Control Plan to manage traffic during roadway construction in the public right-of-way. Traffic closures could still result in travel delay on 13th St NW, Upshur St NW, and Iowa Avenue NW, but these impacts will affect all travelers along these roads.

4.3 CONCLUSION

Many of the impacts described in Section 4.2 would be felt by both EJ and non-EJ populations in the project area. However, as Section 3 determined that the majority of the project study area includes EJ populations, the project has the potential for adverse impacts to be predominately borne by EJ populations, requiring FTA to determine whether the impacts are appreciably more severe or greater in magnitude than the adverse effect that would be suffered by non-EJ populations. FTA's EJ Circular also requires that determinations of disproportionately high and adverse effects take into consideration "mitigation and enhancement measures that will be taken and all offsetting benefits to the affected minority and low-income populations." In evaluating the potential adverse effects from the project that remain after all minimization and mitigation measures, it's expected that construction related noise, vibration, traffic, and air quality impacts would be well below the thresholds at which they would be expected to adversely affect human health or cause community disruption (i.e. creating barriers between communities or negatively affecting existing travel patterns). The associated construction related impacts would be mitigated and minimized to the maximum extent practicable and relative nuisance related impacts will not persist after construction is complete.

As a result of outreach (see Section 5), WMATA will provide additional minimization, mitigation and community benefits as part of the project as noted in **Table 4**. Amenities provided within the building will include office space for Uptown Main Street; 27,500 square feet of retail space with a preference for neighborhood grocer; and a community room with capacity of up to 150 seating and up to 200 standing with an at-grade ADA accessible entrance (no ramp required). The new building will also include employee parking to eliminate prior issues with employees parking in the neighborhood, and will maintain the same level of shadowing for neighboring properties as the existing building.

Mitigation and minimization measures for the project have been applied equally to all affected populations in the study area (see Table 1 of the Documented Categorical Exclusion). Adverse effects associated with the project are similar in magnitude to equivalent bus garage projects by WMATA throughout the Washington, DC area and have similar impacts to populations as documented in equivalent projects. After the consideration of all avoidance, minimization, and mitigation measures and a balancing of off-setting benefits of the project, no disproportionately high and adverse effects are expected to occur on minority and low-income populations.

5 OUTREACH TO ENVIRONMENTAL JUSTICE COMMUNITIES

WMATA has been working to inform and engage the community about the Northern Bus Garage project since January 2019. Between January 2019 and May 2020, WMATA conducted nine meetings to involve the community in the construction and development process (see **Table 4**). This includes five presentations by WMATA's construction team, focused on construction plans and timelines, environmental remediation, and community impacts.

All vital documents were translated into Spanish, including the project website, meeting invitations, fliers, and banners that were positioned at the garage to announce community meetings. There was also an option for community members to call to request interpretation services for the community meetings. The project website includes several Spanish language webpages. Additionally, customers/community members were provided an option to call Metro's Customer Service line to request translation of any non-translated material on the project site.

Table 5 – Community Meetings, January 2019 – May 2020

Event	Date
Community Alliance for Upper 14 th Street meeting	January 30, 2019
Community meeting	March 11, 2019
Community meeting	April 2, 2019
Community meeting	November 18, 2019
Streetsense community workshop #1	February 4, 2020
Streetsense community workshop #2	February 11, 2020
Community meeting	February 25, 2020
Streetsense community workshop #3	March 10, 2020
Streetsense community workshop #4 (Zoom online meeting)	May 26, 2020

WMATA's retail advisory firm, Streetsense, also conducted four community workshops - including a virtual meeting after the Covid-19 pandemic interrupted in-person gatherings. The purpose of these meetings was to better understand and incorporate the community's vision for commercial development along 14th Street, NW. The new garage will include retail space along 14th Street, NW and WMATA is

developing a commercial activation strategy that includes retail concepts and streetscape enhancements that meet the community's needs.

Additionally, WMATA has been working with DC Councilmember Brandon Todd, Ward 4, and the Advisory Neighborhood Commission (ANC) 4C to address community concerns. The ANC wrote a letter of support for the project in March 2020, specifically noting the "community appreciates that WMATA is seeking input from the community at this early stage of design development and the commitment to continue with that engagement."

WMATA undertook additional community engagement from October to November 2020 to address community concerns about the project's design. Because of the COVID-19 pandemic, community engagement meetings were held virtually. The focus of each meeting is described below:

- Meeting 1 - October 13, 2020: facility redesign, floor plans, and exterior design options.
- Meeting 2 - November 2, 2020: Section 106 Consulting Parties, interim exterior design survey results, and Art in Transit.
- Meeting 3 - November 10, 2020: environmental topics including pollution minimization, site remediation, environmental design, and the agency's overall bus electrification efforts.
- Meeting 4 - November 17, 2020: final results of the exterior design survey and final design concept presentation.

Community feedback was gathered during each of these meetings and through the exterior design survey which garnered 305 responses. The survey solicited responses to questions and graphical representations of the project and allowed for open-ended responses. Responses indicated a clear preference for Option Three (of three concepts presented at Meeting 1) primarily because of how well that design integrated with the historic façade.

The final updated design for the facility reduced the total size of the facility by approximately 15 percent from original designs by eliminating some building massing. It also resulted in an 80 percent reduction in excavation, which eliminated the need for blasting; this will result in less vibration and noise for surrounding residents. Other changes made as a result of feedback include the following items:

- High-performance masonry panels on exterior
- Additional windows on 14th Street
- Additional windows on Iowa/Arkansas Avenues
- Additional brick detailing
- Reduced height along Iowa Avenue
- Incorporated Art in Transit
- Wider walkway on northern side of facility with enhanced lighting
- New walkway on west side of Iowa Avenue

To keep the community informed about the project, WMATA has established a public website at northernbusgarage.com. The community can provide feedback through several means, including email, an online web form, telephone, or ongoing community meetings.

WMATA has hired a local firm, Justice & Sustainability Associates (JSA), to assist with ongoing community engagement around the project. The firm engaged neighborhood-based organizations, including the Sixteenth Street Neighborhood Association and the Uptown Main Street organization, during the community outreach discussed above. It is currently developing a plan that will ensure



continued community involvement and information sharing as the project advances to the demolition and construction phases.

APPENDIX 13: U.S. FISH AND WILDLIFE INVENTORY AND CORRESPONDENCE

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United States Department of the Interior



FISH AND WILDLIFE SERVICE
Chesapeake Bay Ecological Services Field Office
177 Admiral Cochrane Drive
Annapolis, MD 21401-7307
Phone: (410) 573-4599 Fax: (410) 266-9127

<http://www.fws.gov/chesapeakebay/>
<http://www.fws.gov/chesapeakebay/endsppweb/ProjectReview/Index.html>

In Reply Refer To:

December 27, 2021

Consultation Code: 05E2CB00-2020-SLI-1032

Event Code: 05E2CB00-2022-E-01341

Project Name: Northern Bus Garage Replacement (4615 14th St NW, Washington, DC 20011)

Subject: Updated list of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. This species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at:

<http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>;

<http://www.towerkill.com>; and

[http://](http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html)

www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Wetlands

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Chesapeake Bay Ecological Services Field Office

177 Admiral Cochrane Drive

Annapolis, MD 21401-7307

(410) 573-4599

Project Summary

Consultation Code: 05E2CB00-2020-SLI-1032

Event Code: Some(05E2CB00-2022-E-01341)

Project Name: Northern Bus Garage Replacement (4615 14th St NW, Washington, DC 20011)

Project Type: TRANSPORTATION

Project Description: Northern Bus Garage will be replaced at 4615 14th St NW in Washington, DC.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@38.94725166144727,-77.03186353849856,14z>



Counties: District of Columbia County, District of Columbia

Endangered Species Act Species

There is a total of 3 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 2 of these species should be considered only under certain conditions.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. This species only needs to be considered under the following conditions: <ul style="list-style-type: none"> Projects with a federal nexus that have tree clearing = to or > 15 acres: 1. REQUEST A SPECIES LIST 2. NEXT STEP: EVALUATE DETERMINATION KEYS 3. SELECT EVALUATE under the Northern Long-Eared Bat (NLEB) Consultation and 4(d) Rule Consistency key Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Insects

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. This species only needs to be considered under the following conditions: <ul style="list-style-type: none"> The monarch is a candidate species and not yet listed or proposed for listing. There are generally no section 7 requirements for candidate species (FAQ found here: https://www.fws.gov/savethemonarch/FAQ-Section7.html). Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

Crustaceans

NAME	STATUS
Hay's Spring Amphipod <i>Stygobromus hayi</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8410	Endangered

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

USFWS National Wildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

Wetlands

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

WETLAND INFORMATION WAS NOT AVAILABLE WHEN THIS SPECIES LIST WAS GENERATED.
PLEASE VISIT [HTTPS://WWW.FWS.GOV/WETLANDS/DATA/MAPPER.HTML](https://www.fws.gov/wetlands/data/mapper.html) OR CONTACT THE FIELD OFFICE FOR FURTHER INFORMATION.
